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The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

Engineering News Statistics

September 26, 1930 Volume 59, No. 2

HUGHES

—CORE BITS
—DRILLING VALVES

Leaders through Engineering Achievement . . . . . .

Years of field and laboratory experience made possible the development of the Hughes Drilling Valve and Hughes Core Bit,—products that have earned recognition throughout the Industry for economy and safety of performance.

The Hughes Core Bit, with interchangeable cutter-heads, assures speedy and certain recovery of core in both hard and soft formations.

The Hughes Drilling Valve affords the maximum degree of safety; closes easily and surely, and has unusual length of life.

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Export Offices
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This

is the kind of Core you want!

The above illustration is from an unretouched photograph. It shows a 5-inch core taken with an Elliott Core Drill. (Photo made after the core had been broken up for inspection.)

Elliott Cores prove Elliott supremacy in every coring operation. They are long, clean, informative specimens of the various formations encountered, and their cost—per foot of recovery—is decidedly low. For consistent performance and proven economy always specify Elliott Core Drills.

Write for illustrated catalog containing complete information.

The Elliott Core Drill for Rotary Tools

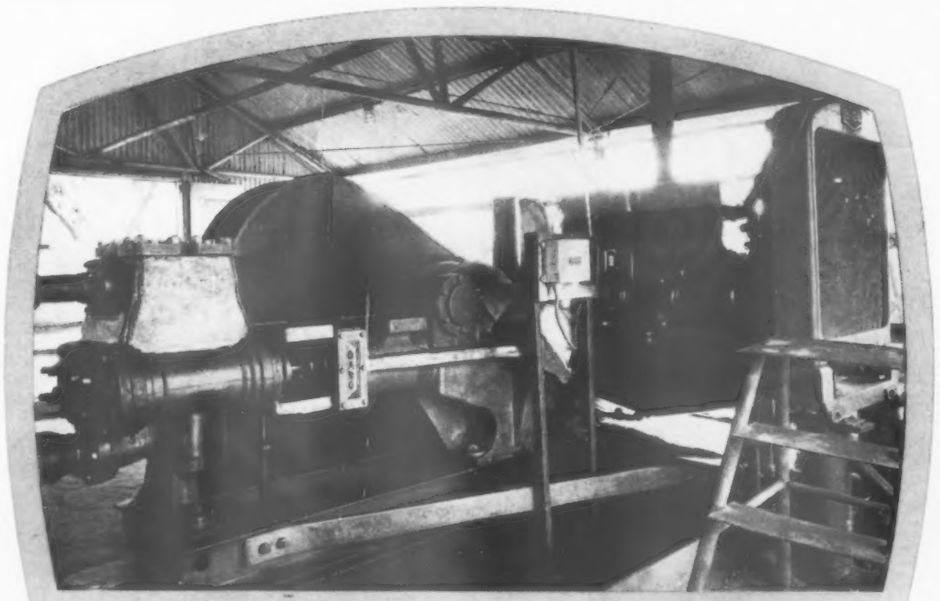
Elliott
CORE DRILLING COMPANY
4731 East 52nd Drive
LOS ANGELES, CALIFORNIA.

Export Offices: 150 Broadway, New York

Distributed exclusively in the United States East of the Rocky Mountains, by
REED ROLLER BIT COMPANY

ELLIOTT Core Drills

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 187



Gaso-Buda Portable Diesel Pumping Unit in use by Prairie Pipe Line Company at New Castle, Texas.

The GASO-BUDA Portable Diesel Unit became Popular within A Few Weeks

When this Diesel powered pumping unit was announced, buyers appeared immediately. Within only a few weeks commendation began to come in from users who found this outfit the perfect answer to a very definite need. For servicing new and unproven fields operators needed a pumping unit that was easily moved, quickly and inexpensively installed, efficient in the use of fuel —yet capable of handling large capacities at high pressures. The GASO-BUDA Portable Diesel Pumping Unit proved ideal for such service—as well as for temporary or semi-permanent use.

DIESEL ECONOMY combined with PORTABILITY

This consists of the GASO Fig. 710 Timken Bearing Enclosed Power Pump—with interchangeable liners giving capacities from 54 bbls per hour at 1400 lbs. pressure to 500 bbls. per hour at 300 lbs. pressure—compactly mounted on steel H-beam skids with V-rope drive from BUDA M.A.N. Light Weight High Speed Diesel Engine of 92 or 120 H. P. operating efficiently on fuel having a Baume gravity of 26 to 38.

Ask for detailed specifications.

GASO PUMP & BURNER MFG. CO.
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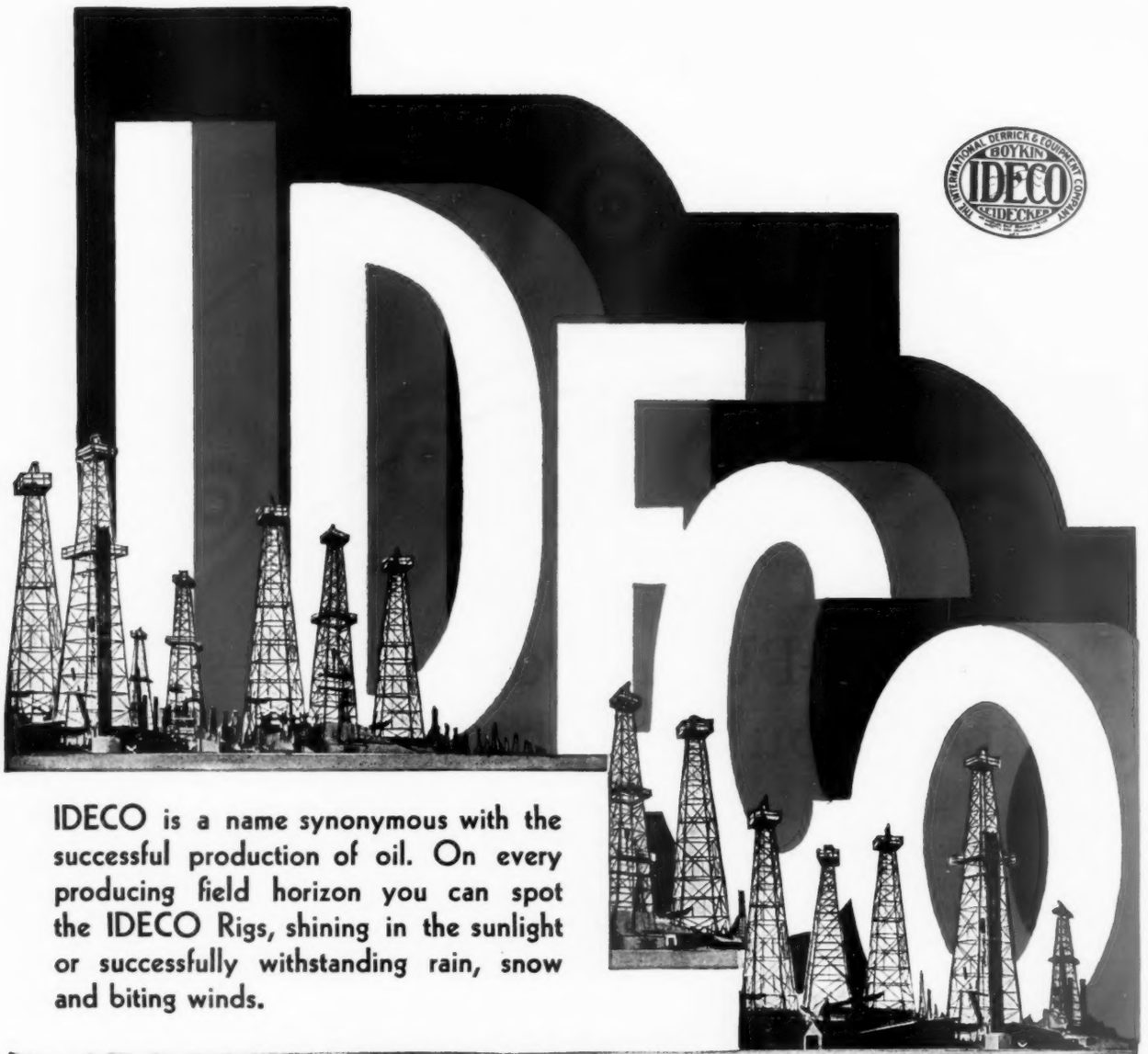
GASO PUMPS
for every oil industry need



IDECO is a name synonymous with the successful production of oil. On every producing field horizon you can spot the IDECO Rigs, shining in the sunlight or successfully withstanding rain, snow and biting winds.

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AND RIG EQUIPMENT

THE INTERNATIONAL

Columbus, Ohio, Marietta, Ohio,

Plants: Columbus, Marietta, Delaware, Ohio; Torrance, California; Beaumont, Houston, Texas. *District Offices:* New York City, N. Y.; Pittsburgh, Pennsylvania; Wichita, Kansas; Tulsa, Oklahoma; Shreveport, Louisiana; Fort Worth, Beaumont, Texas; Maracaibo, Venezuela. *Warehouses and Stocks:* Columbus, Delaware, Ohio; Seminole, Tonkawa, Drumright, Okemah, Maud, Sasakwa, Allen, Oklahoma City, Oklahoma; El Dorado, Wichita Heights, Kansas; Houston, Beaumont, Big Spring, Odessa,

IDECO Boykin Drilling Equipment is rapidly coming to the forefront in the driller's equipment. Draw works, Rotary, Crown Blocks, etc., are built to fit the IDECO Derrick and do their work with the same degree of efficiency.

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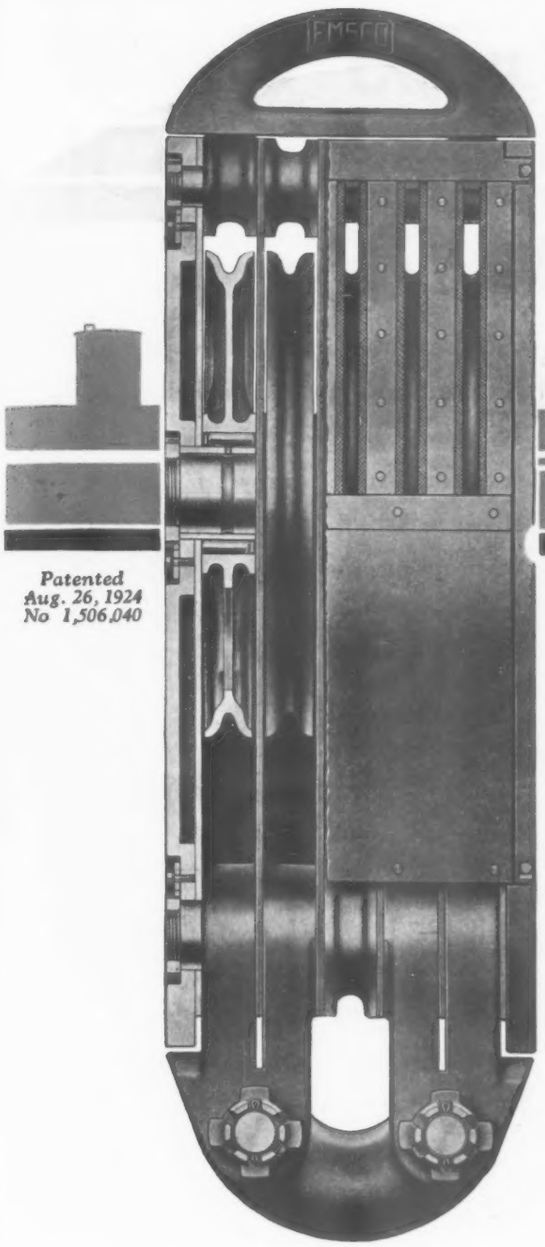

Patented
Aug. 26, 1924
No 1,506,040

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76" ROLLER-BEARING TRAVELING BLOCKS
4, 5 & 6 Sheaves

fast • strong • easy • on • the • wire • lines •

Every factor contributing to convenience and speed in operation as well as strength, safety, and minimum wear, is included in this improved new type traveling block with extra heavy streamline construction.

Equipment suspended from the block may be easily dismounted without removing the lower clevis pin. The detachable bottom clevis can be swung to one side and the block set on end to facilitate reeving.

Roller bearings are used to reduce friction to a minimum. Sheaves are manganese steel, 42" diameter, with grooves true-ground to A. P. I. specifications, reducing bending stress and wear on wire lines. Sheave pins are 8" diameter alloy steel, hardened and ground.

Steel guards are provided, faced with lagging, to prevent chafing of wire lines. Capacity, 250 tons. Safety factor, 4:1. Alemite lubrication. Weight, 5 sheave, 9885 lbs. Write for Folder No. 110.

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. . . are embodied in every part of Axelson pumps. Few changes have been necessary in any of the Axelson liner pumps to convert them to 100% A.P.I. Every part of these pumps from top collar to standing valve shoe may be furnished to A.P.I. specifications if the operator desires. Axelson manufactures all necessary gauges to meet A.P.I. tolerances with the same degree of accuracy which has characterized their workmanship for the past four decades. A.P.I. pump standards are truly Axelson pump standards to the most minute detail, and Frick-Reid is proud to handle them!

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PUMP STANDARDS

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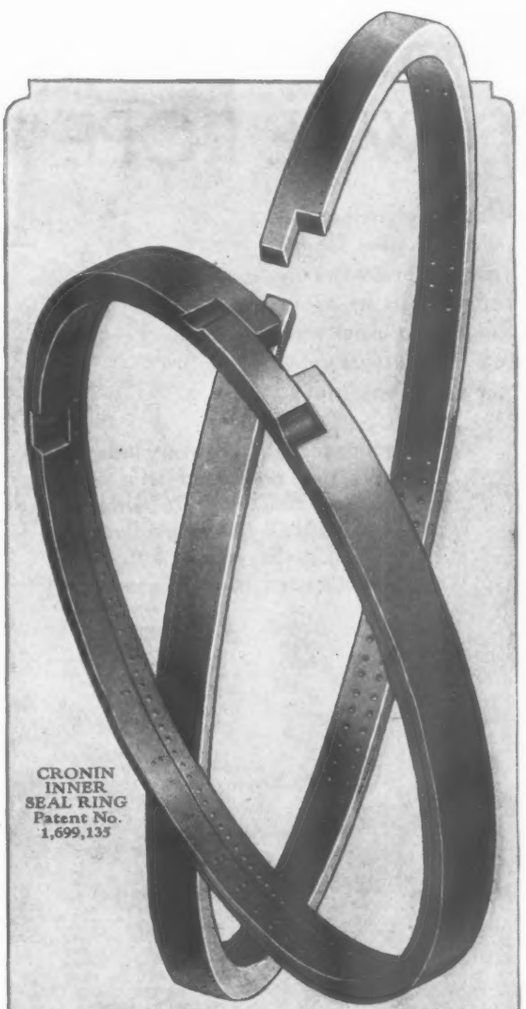
Why Use Hammered Piston Rings

A PISTON RING must have uniform tension—which means equal outward pressure uniformly exerted against the cylinder wall. Furthermore, the tension must be maintained during the life of the ring and under the most severe service.

Hammered tension is the answer. Hammering the inner surface of the ring by the special American Hammered variable spacing process produces uniform and permanent tension. Permanent because the inner surface of the ring is not affected by wear, the tension being maintained during the life of the ring.

Engine builders and operators have demonstrated through years of experience that the hammered principle is more than a scientific theory. It is a proven fact. That is why a large and steadily increasing number of America's leading engine builders use millions of American Hammered Piston Rings year after year.



CRONIN INNER SEAL RING Patent No. 1,699,135

FOR more than ten years, multiple-piece rings have also been manufactured by the American Hammered process and have been supplied to leading engine builders.

The Cronin Inner Seal Ring pictured, effectively seals the joint, the groove, and the cylinder and also overcomes excessive groove wear. It can be used in all grooves in the piston and is indispensable in out of round and tapered cylinders.

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HAZARD'S Book of Facts on *LAY-SET* PREFORMED WIRE ROPE

Here is a book which explains the principle of preforming wire rope, and *why* Lay-Set Preformed Wire Rope gives longer life, is easier to handle, resists kinking, will not high or low strand, and is safer to use. ¶ Its complete data on fatigue tests, its simple wire rope definitions and its instructions on how to order wire rope, make it an unusually valuable book for any wire rope user. ¶ Return the coupon below and get your copy today.

Service reports from every industry prove that preformed wire rope gives from 30% to 300% added service over ordinary wire rope. Because of this, Lay-Set is used by operators interested in rope economy.

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Without obligation—send me a copy of this Book of Facts about Lay-Set Preformed Wire Rope.

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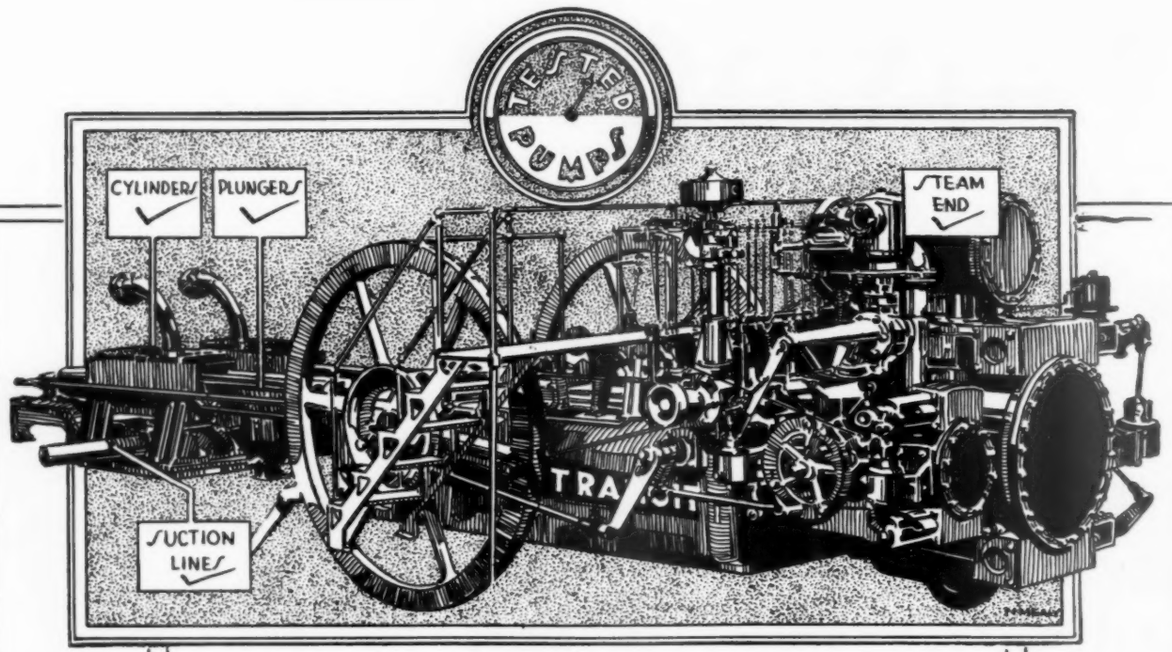

O.K.

TRANSIT Hot Oil PUMPS are thoroughly tested in the course of their manufacture.

With ample factors of safety we test hydraulically:

Fluid Cylinders
Steam Cylinders
Plungers
Separators
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After assembly the completed unit is put on the block for an actual running test.

In this way we safeguard the customer, besides keeping every part up to the same high TRANSIT standard of efficiency and dependability.

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REPUBLIC SUPPLY COMPANY
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NATIONAL TRANSIT
Pump & Machine Co.
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FOR ALL OIL FIELD PURPOSES

FIELD offices, dwellings, pump stations, power belt houses, flowing plants, refineries, material supply depots, warehouses, bunk and mess halls, garages . . . Butler Ready-Made Steel Buildings shelter practically every activity of the oil fields. And the reasons . . . fire-safeness to offset remoteness from fire protection, complete materials, ready made and readily transported to outpost operations, speed in erection by whatever sort of labor crew available, lower investment and maintenance charges, structural qualities which insure permanence, yet which permit enlarging or taking down and re-erection. Send for the new booklet picturing many Butler installations. Call upon Butler engineers to supply full details and prices on any type structure in mind.

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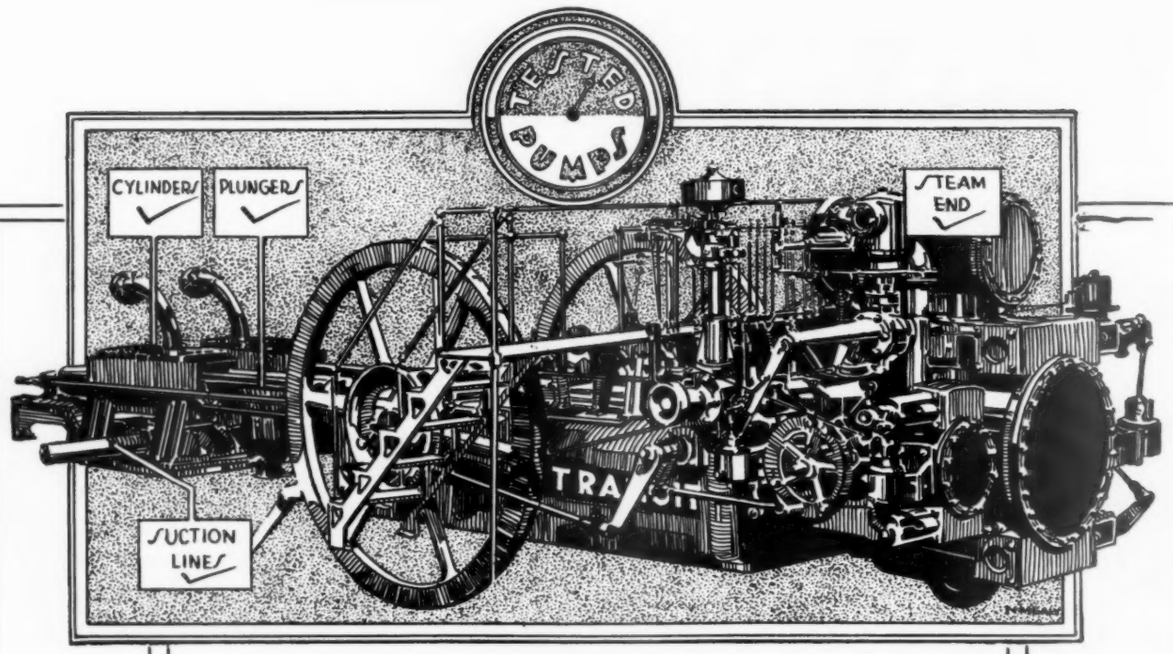

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FIELD offices, dwellings, pump stations, power belt houses, flowing plants, refineries, material supply depots, warehouses, bunk and mess halls, garages . . . Butler Ready-Made Steel Buildings shelter practically every activity of the oil fields. And the reasons . . . fire-safeness to offset remoteness from fire protection, complete materials, ready made and readily transported to outpost operations, speed in erection by whatever sort of labor crew available, lower investment and maintenance charges, structural qualities which insure permanence, yet which permit enlarging or taking down and re-erection. Send for the new booklet picturing many Butler installations. Call upon Butler engineers to supply full details and prices on any type structure in mind.

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STEEL BUTLER PRODUCTS

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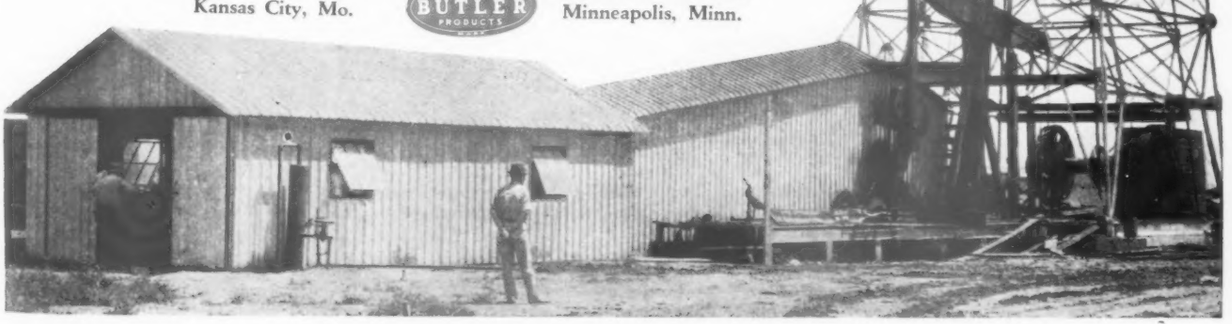
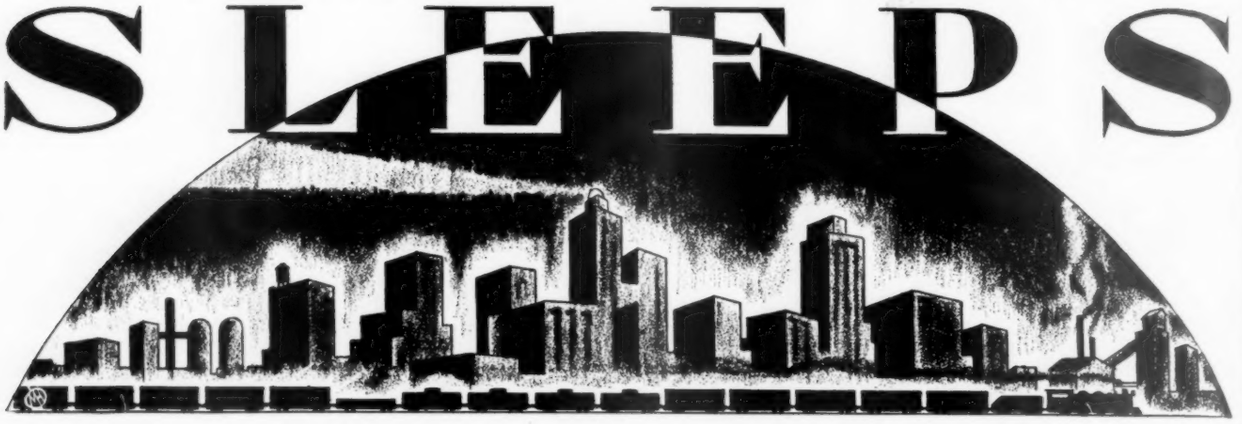


WHILE THE CITY SLEEPS



Business houses, wholesale and retail, may close up at five each evening but all night long the chugging of engines in the oil fields goes on. Time means dollars in this industry as in no other. A shut down for repairs is serious business.

That's why it is essential that much care and consideration is given the selection of a location for a warehouse, or shops for those houses that serve the oil industry. And that's why so many oil field supply houses are today focusing their eyes on Oklahoma City as the base of their operations in the Mid-Continent area.

By actual check Oklahoma City is from seven to twenty-four hours quicker to every major pool in the Mid-Continent field than any other shipping point and it is the only city within the area that can give overnight service to any point in the Mid-Continent.

Dependable electric power plays an important part, too. It is available through the state's largest interconnected power plant and transmission line system at attractive industrial rates.

Why not investigate Oklahoma City and its advantages as a shipping point to the Mid-Continent area? It will pay you well to do so.

OKLAHOMA CITY
Chamber of Commerce
OKLAHOMA CITY, OKLAHOMA

FOUR GOOD REASONS

The Chamber of Commerce July 12, 1930
Oklahoma City, Oklahoma
Gentlemen:

There are four reasons why we located our plant in Oklahoma City:

First, railroad connections, having direct lines from the east, through Kansas City and St. Louis, whereby we may receive our raw material, such as machinery, steel in bar and billet form in from five to seven days, from eastern manufacturing points. And a direct outlet to the west, south and north to all points in the mid-continent oil field for quick delivery. And for export, we have outlet south by the way of Galveston, to foreign points. Being the most centrally located shipping point in the southwest.

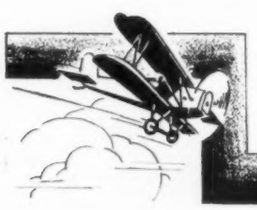
Second, being in the heart of the largest undeveloped oil region in the world where Rotary tools, which is our line of manufacture, are used.

Third, good roads to areas that may readily be reached by truck for fast freight service.

Fourth, Oklahoma has a delightful and healthful climate as well as desirable surroundings for employees. And unusually good schools which must always be taken into consideration, which keeps the permanent employee in a satisfied state of mind.

Yours very truly,
A. F. SPENGLER COMPANY
By Arthur F. Spengler

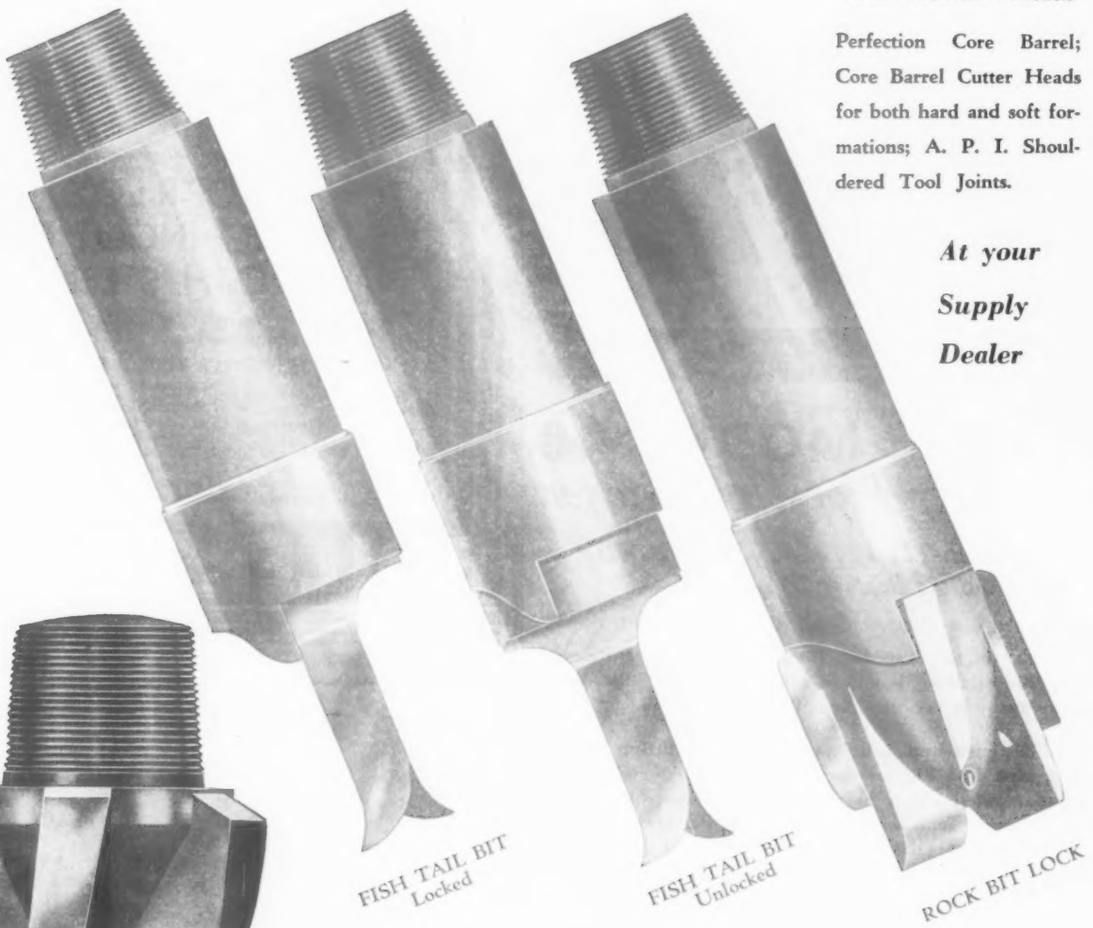
For the Central Area of Oklahoma and the Mid-Continent, no other distributing point offers the transportation facilities of Oklahoma City. Seven railroads converge at Oklahoma City. Sixty class "A" Truck Lines operate one or more Trucks daily into and out of Oklahoma City serving 312 towns in Oklahoma direct as well as adjoining states. Air lines extend in each direction.



Visit the Great Oklahoma City Oil Field

While attending the International Petroleum Exposition, (Oct. 4-11) be sure to inspect the Oklahoma City field. Air, bus and rail transportation available almost every hour. You will want to see this new field.

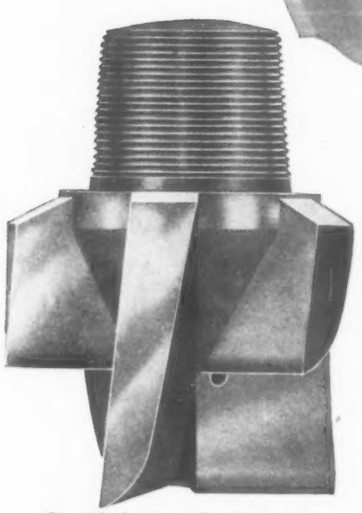
A New Safety Drill Collar



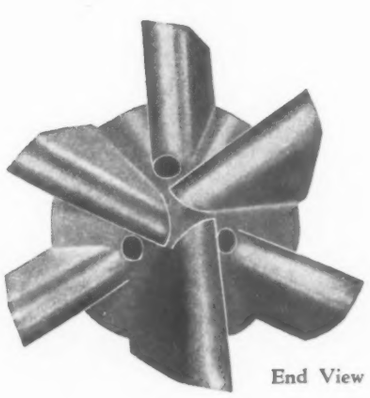
Other Brewster Products

Perfection Core Barrel; Core Barrel Cutter Heads for both hard and soft formations; A. P. I. Shouldered Tool Joints.

At your Supply Dealer



Six Blade Straight Hole Bit



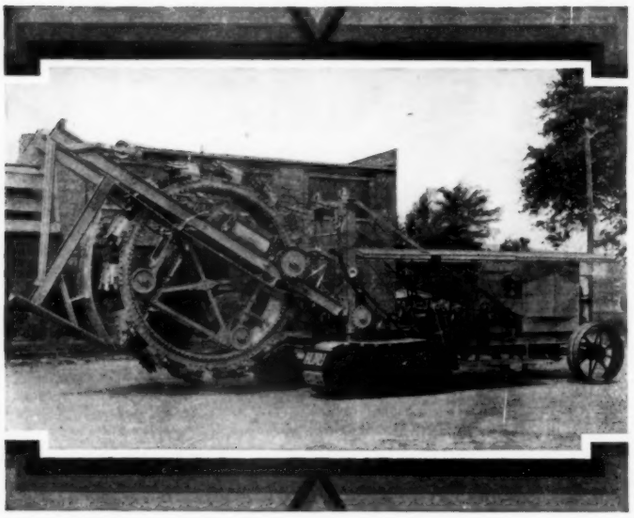
End View

Positive . . . . automatic . . . . prevents a bit from backing off going into the hole. This Drill Collar has a positive bit lock for any style bit. No more grief from "he failed to make up the bit". Made in all sizes. A.P.I.

Manufactured by

The Brewster COMPANY~INC.
Shreveport, Louisiana

See Buckeye Model 12 in Block "H" at the International Petroleum Exposition, Tulsa, October 4 to 11



BUCKEYE MODEL 48
Heavy-Duty Pipe Line Ditcher

Cutting Widths: 22" and 24"–26" and 30"–37" and 40"
Cutting Depths: 6½' and 7½'

A leader in the complete line of *wheel-type* Buckeyes—"*the* ditchers that meet *all* oil and gas field requirements"—is the new, big, husky Model 48.

It is designed and built specifically for cutting the largest pipe line ditches successfully. Its ruggedness is supplemented with remarkable ease of control, favorite operating features and, like *every* Buckeye, with ample capacity to deliver plenty of finished ditch at decidedly low cost.

Taking soil and weather conditions as they come, Buckeyes have set the pace in pipe line construction for over 30 years. That they continue to do so, making them the preferred standards of leading pipe line engineers and contractors, is proven by three indisputable facts: 1—more Buckeyes are employed throughout the world's oil and gas fields than all other makes combined; 2—probably 95% of all Major American cross-country pipe lines are laid in Buckeye-cut ditches; and 3—nearly every large pipe line contractor uses them exclusively.

Write for our interesting new catalog, "BUCKEYE —*The Pipe Liner.*" It contains comprehensive specifications, describes and illustrates mechanical details, and lists surprising performance records. A full range of sizes offers a Buckeye for every requirement.

The Buckeye Traction Ditcher Co.
FINDLAY, OHIO

There's a Buckeye Sales and Service Office near You

for over thirty years **Buckeye**

TYLER
for DEPENDABLE QUALITY
. . . PLUS IMMEDIATE SHIPMENT

Regardless of your tube needs—you will find us able to serve you in a dependable and economical manner. Immediate shipment can be made from a warehouse located in your near vicinity.

Boiler Tubes made of

COP-R-LOY
ARMCO INGOT IRON
O. H. STEEL

Today—write us about your standard or special requirements.

THE TYLER TUBE & PIPE CO.
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Warehouse Stock at
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Harrisburg Supply Company, Tulsa, Oklahoma
A. M. Castle & Co., Chicago; Seattle, Washington; San Francisco, California; Los Angeles, California
Lukens Steel Company, New Orleans, Louisiana

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"Favorite of the Oil Fields"

UNRIVALLED for SERVICE

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Stocks Carried at
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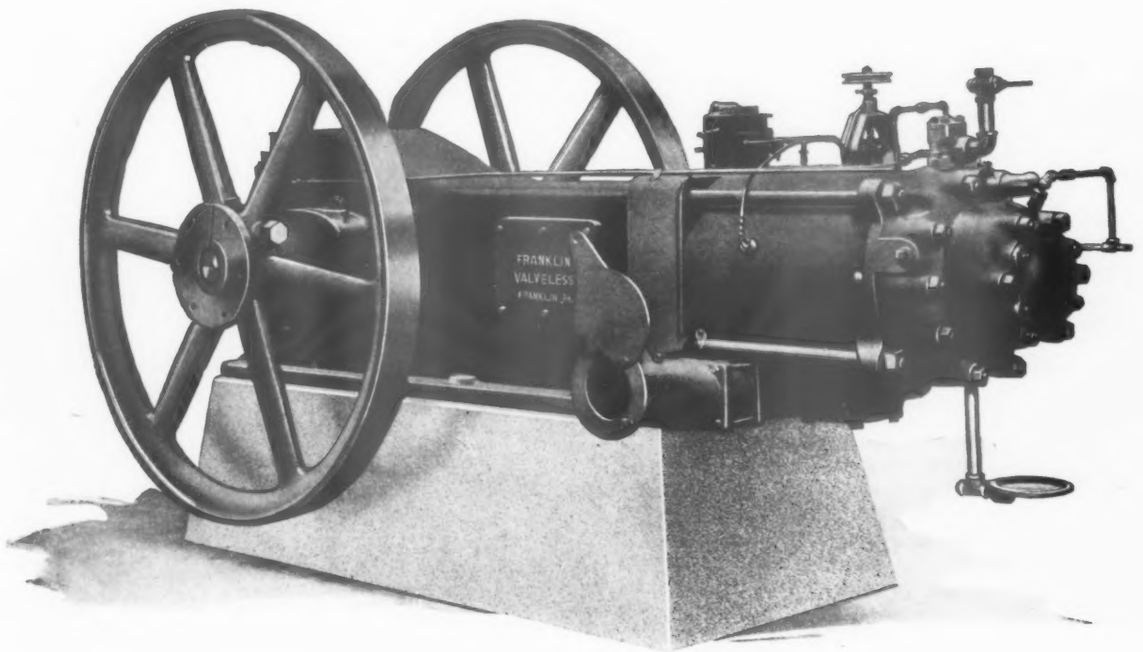
Drilling Pumping Power | Loads

The Franklin Valveless Oil Engine may be secured equipped to handle drilling, pumping or power loads. Its success as an oil engine may be judged by the fact that there are more Franklin Oil Engines in use in the oil fields than any other make of oil engine. If your gas supply is weak or exhausted, you cannot afford to overlook this efficient and economical power plant, which is giving such universal satisfaction wherever used.

Franklin Valveless Engine Company

FRANKLIN, PENNSYLVANIA



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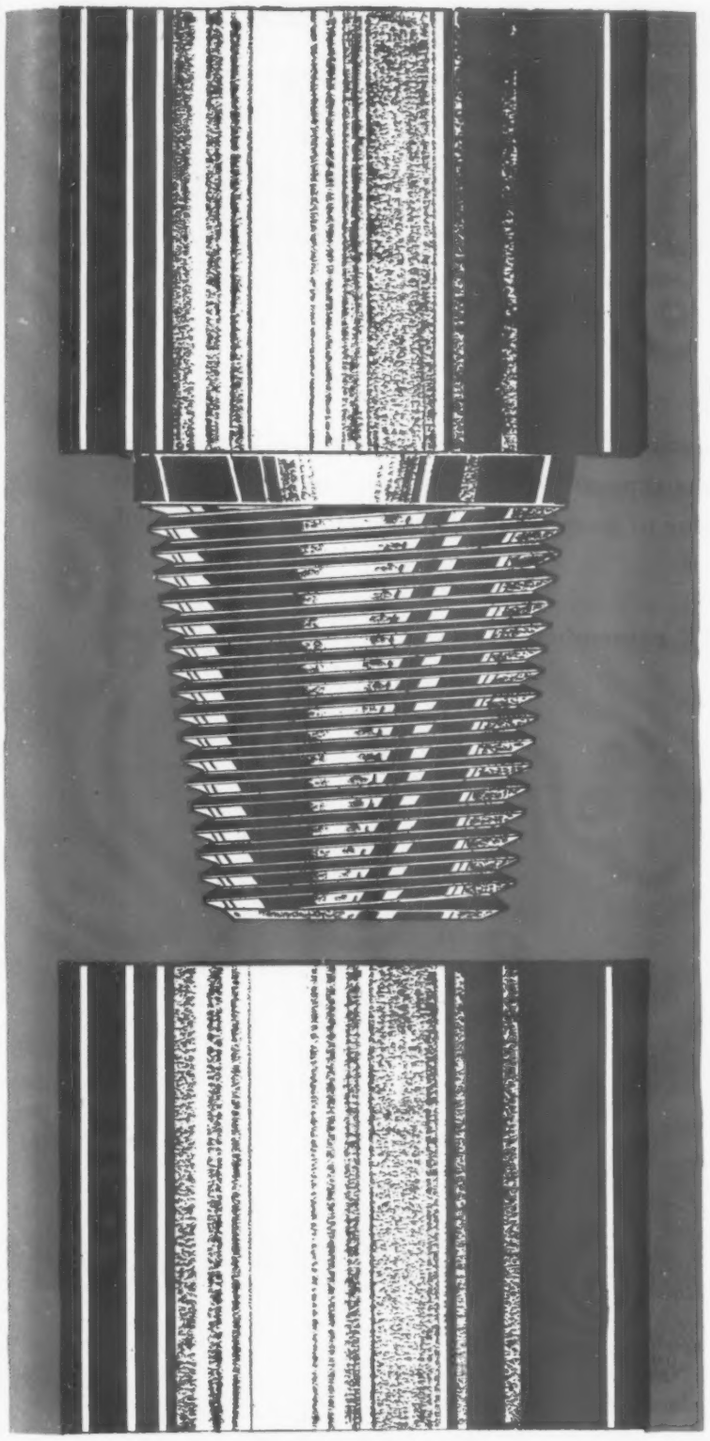

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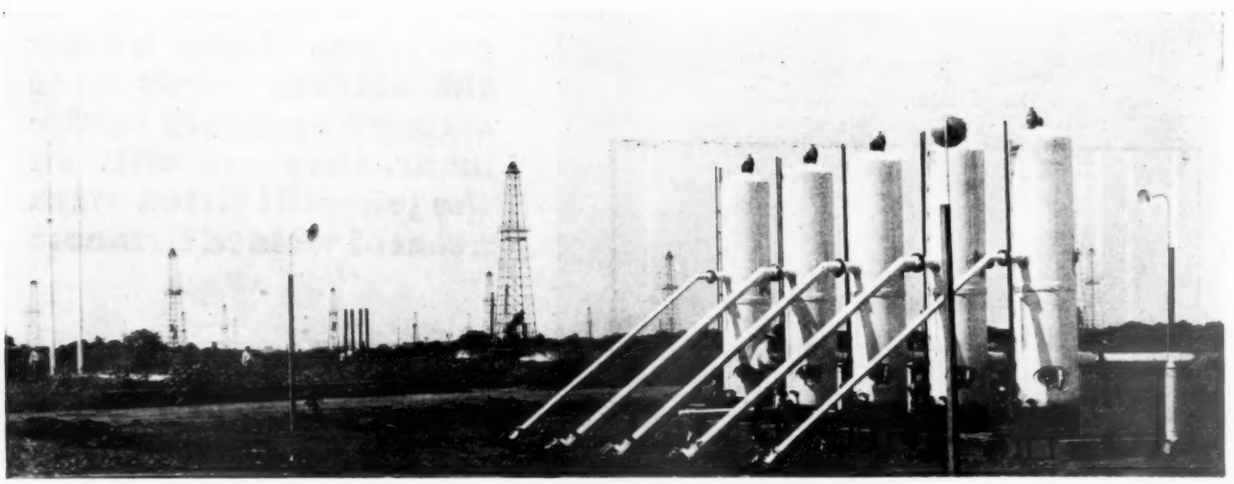

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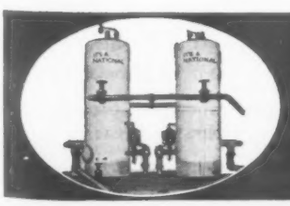

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The OIL WEEKLY

Member Audit Bureau of Circulations

VOLUME 59, NO. 2

SEPTEMBER 26, 1930

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

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Copyright, 1930

Published Weekly

by

GULF PUBLISHING COMPANY

OFFICE OF PUBLICATION

3301 Buffalo Drive, Houston, Texas

R. L. DUDLEY, *President*

A. L. BURNS, *Gen'l Manager*

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THE OIL WEEKLY

VOLUME 59, NO. 2 SEPTEMBER 26, 1930

California Rated Allowable Cut *To* 540,000 Barrels

By BRAD MILLS
Staff Representative

LOS ANGELES.—Reduction of California's rated allowable production to 540,000-550,000 barrels and a more threatening gesture from Kettleman Hills were the outstanding developments of the week, with a slightly decreased domestic consumption of crude oil and failure to bring the Playa del Rey field in line, strong secondary factors in a mixed trend of events which indicate the necessity for a lower output during the remainder of the year.

Failure to include the Playa del Rey field in the new schedule and absence of provisions to care for excesses at Santa Fe Springs point toward an actual state production considerably above the basic allowable—possibly up to 575,000 barrels. The side-stepping of these issues was necessary, due to absence of a recognized market price or quotation for crude from the Playa del Rey Field and the baffling nature of the unobtainable curtailment at Santa Fe Springs and excess at Kettleman Hills.

The new schedule strikes especially hard at the Elwood field and certain heavy oil fields in the San Joaquin Valley, besides further pruning such flush fields as Long Beach and Santa Fe Springs. The average cut from the potential is 54.49 per cent, based on a total of 1,186,600 barrels which includes the Playa del Rey field. The allowable in the more settled fields was reduced in several instances, although these fields admittedly have not been responsible for the present high potential. This reduction illustrates the fact that all fields must eventually be penalized for over-production in the critical areas.

Elwood operators have agreed to the cut of 68.71 per cent from the potential, the reduction bringing the allow-

(Continued on page 66)

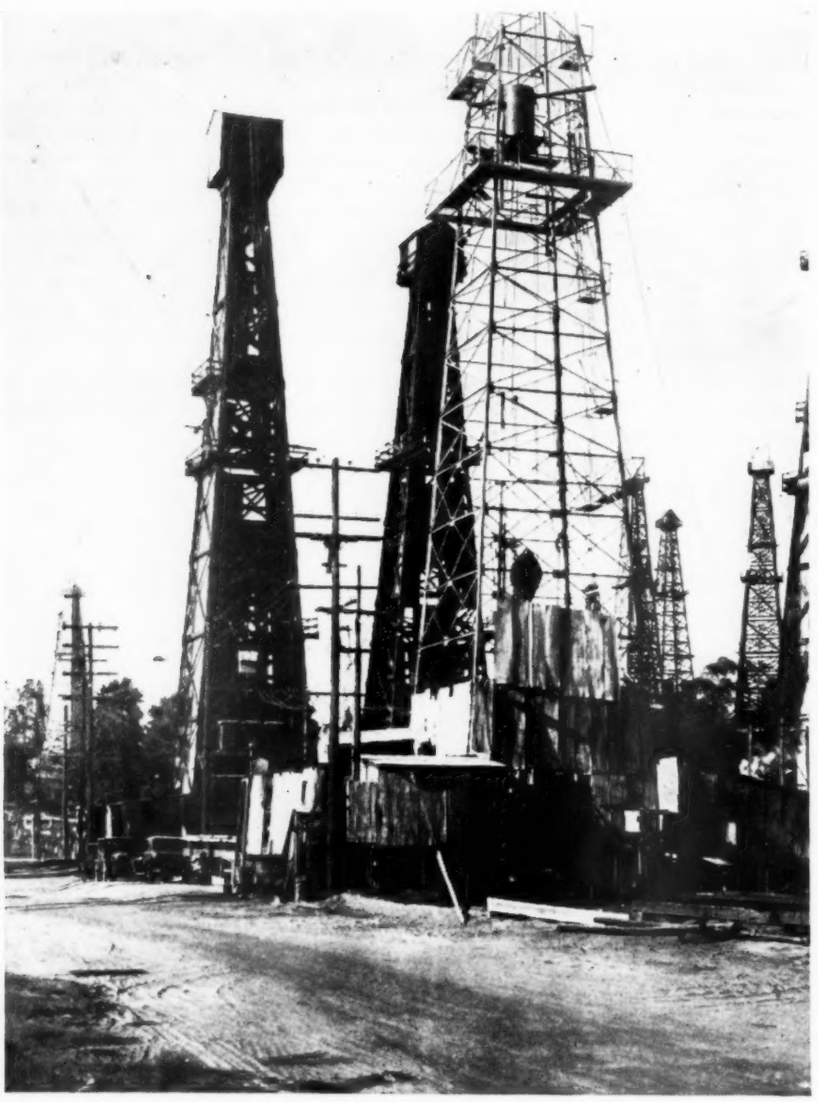
Where formerly only a row of small seaside cottages extended along the beach, hundreds of derricks have been located so close to the sea at Venice as almost to be washed by the surf of the Pacific. (International Newsreel Picture)

Improved Technique *and* Safety *Mark Modern Development At Long Beach*

By BRAD MILLS
Staff Representative

A COMPARISON of the equipment in use at General Petroleum Corporation's Kelly 4 at Long Beach with that which was in vogue during the early days of development in this field reveals refinements, safety features and improved technique which have been developed during a very short period. Nine years in the course of many industries is a very short period but this stretch of time between the discovery of oil at Long Beach and the present deep development has witnessed the perfection of equipment and methods which have all but changed the nature of drilling.

Many installations at Kelly 4 are being used generally, but a few are being tried here for the first time. The progressive nature of the company has caused the well to be classed as one of the best equipped in California, but already the use of experimental equipment and safety methods is being considered by other operators.



General Petroleum Corporation's Kelly 4, Long Beach

Recognition of safety as a major factor is easily seen in steps taken to prevent injury at Kelly 4. The crude methods of 1921 observed only the major principles of safety, while the latest layout is fortified either with equipment improved along this line or installations made primarily to insure safety.

The incorporation of safety devices and methods at this drilling well are destined to protect machinery as well as workmen. A study of the various installations leads the average engineer to the realization that mechanical safety in drilling deep wells is as necessary as safety to the crew. The greatest improvement in drilling technique has been accomplished through raising the safety factor. While the setup of equipment at Kelly 4 was not made with the view of achieving the ideal safety arrangement, the fact that a higher standard was reached without sacrificing safety features is an important development.

The tendency toward heavier equipment is pronounced, but this trend is so well established that it is hardly worth mentioning in connection with the main subject of improvements and refinements. It is largely the advanced installations and safety features which make Kelly 4 outstanding, when compared with the first wells drilled in this field during 1921 and 1922.

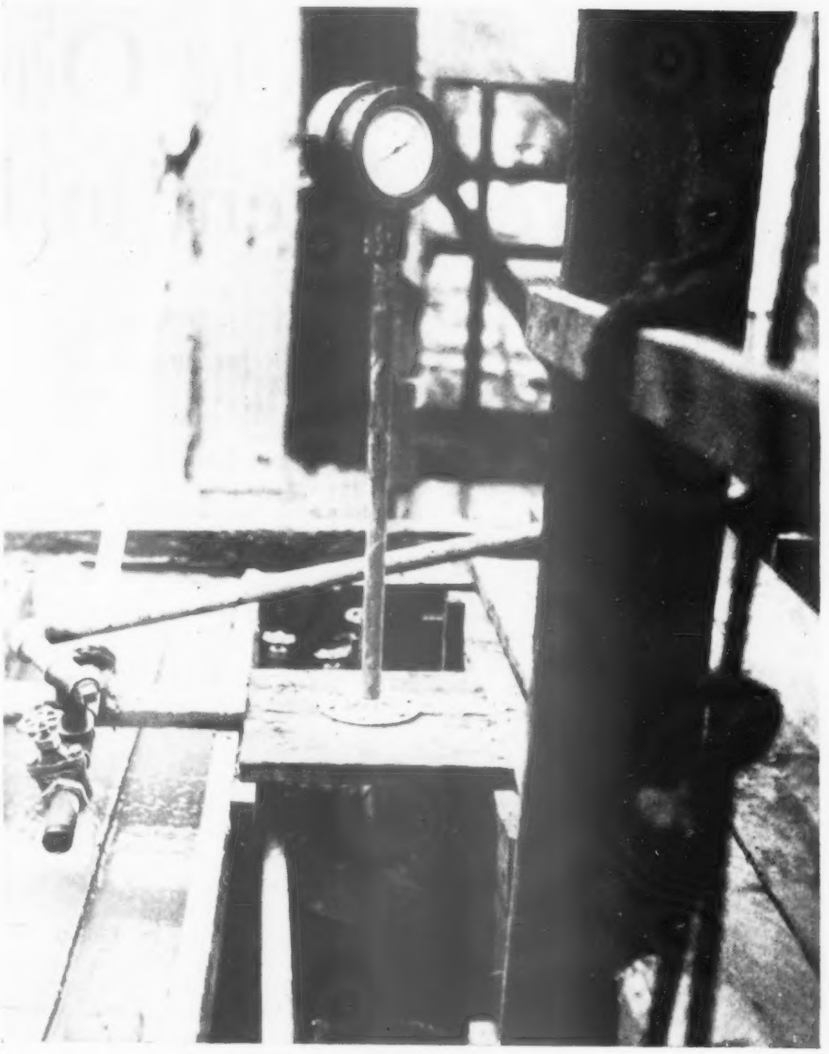
Uses Automatic Mud Scale

An automatic mud scale, one of the first to be installed and an instrument designed to weigh and record the

weight of drilling mud, is an innovation which has attracted considerable attention. The installation consists of a calibrated indicating gauge, recorder, mud hopper and an upright pipe connection. The gauge and recorder are mounted back to back on the pipe stand and are operated from the same shaft by a spring dynamometer connected to the conical hopper through the stand by means of a cable. The hopper now in use holds one-fourth of a cubic foot of mud and drains continuously from the bottom while being kept full from the circulation at the top. Briefly, the installation shows the driller the weight of the mud at all times and records the weight by means of an orifice chart. An experimental glass water gauge is being used near the driller's stand but this arrangement has not been regularly incorporated into the installation. The scales require a fall of about two feet from the ditch or flow line for successful operation. A screen is used at the head of the line to stop all but the smallest cuttings.

An all-steel rotary hose is being used at Kelly 4 with much success. This is a radical departure from the former type of hose. Successful method of jointing facilitates handling and wear at turns and no trouble is experienced in running in and out of the hole.

The water cooled brake drum installed on the draw works is the first of its type ever used and the drilling crew is enthusiastic concerning its possibilities. The water line is run down the main shaft and circulated in the jacket around the drum. Circulation is maintained while running in and out of the hole by a small centrifugal pump. A pressure gauge in plain view of the driller adds to the efficiency of the installation. Although the water is circulated through the main shaft, the pump may be stationed at some remote point.



Automatic Mud Scales in use at Kelly 4

General Petroleum Corporation's engineers have perfected an automatic magnetic shutoff which functions when the pressure becomes too high on the mud pumps. The installation essentially consists of a hydraulic mud gauge which is set to throw the electric switch when an excessive pressure has been developed. The climbing of the pressure pin demagnetizes the field and the power is shut off. This arrangement followed the successful application of mud pump gauges, which are themselves a new development. The switch affects only the electrical power to the pumps.

Although the weight indicator is in universal use, its application to the drilling of Kelly 4 is a radical departure from the drilling of earlier days. One of the drillers at this well stated that he viewed first attempts four years ago to force the use of the weight indicator as unfair to the driller. It was regarded as just another gadget, but its place on the regular equipment at Kelly 4 illustrates the progress made in the field since the original boom of 1921-1923.

Safety Features

An automatic kickoff near the top of the derrick to prevent the block from running too high is an outstanding safety installation. The climbing block throws a switch and the power is shut off. This installation is the result of several accidents from careless or over-zealous drillers and floor men. The derrick man can also operate this switch.

As an additional safety factor, a switch and bell system has been installed between the derrick man's level and the derrick floor, the bell being located in the latter position for use when the attention of the driller is needed.

Full use of electricity instead of steam, while not unusual in this field, contrasts sharply with early attempts to complete wells here. A heavy Hild drive draw works, operated by two 25-65-horsepower electric motors, is a type of equipment completely developed since the discovery of oil on Signal Hill. The heavy electrically driven mud pumps are much more efficient than the lighter steam pumps in use during the early period of development. There are no steam lines connected to the well.

Such practices as the use of weight materials in the mud and the surveying of the hole are accepted in every field, but their use at Kelly 4 make the comparison with drilling records of 1922 all the more interesting. The drilling technique is another story, but it has kept pace with improvements in equipment.

Hugoton Field Outstanding Development in Kansas

By FLOYD SWINDELL
Staff Representative

TULSA.—The Hugoton gas field is the outstanding accomplishment of Kansas operators for the year of 1930 and promises to eclipse any gas producing area heretofore developed in Kansas or in the entire Mid-Continent. Very little interest has attended the development of the structure principally because the wells are initially small as compared with the tremendous volumes obtained from some of the larger wells and because the rock pressures are comparatively low. However, any field in which a daily potential in excess of 300,000,000 cubic feet is developed, is deserving of notice regardless of the size of the individual wells or the rock pressure.

The Hugoton gas field is located in southwestern Kansas and the Oklahoma Panhandle about mid-way between Hugoton and Richfield, principal towns in Stevens and Morton Counties, respectively. The proven area, based on the assumption that wells five or six miles apart prove the structure between them, covers more than 300 square miles, with all indications that it will be extended to include an area perhaps twice this large. Production is obtained in practically every township within the area bounded on the east by range line 35, on the west by range line 41, on the south by the state line, and on the north by township line 31, and extending southward into township 6 north, range 14 east, Cimarron Meridian, Texas County, Oklahoma. Gas has been found in what is apparently the same horizon eastward of the main area in Seward County, Kansas, near Liberal, and in the southwestern and west central parts of Texas County, Oklahoma. However, it is the intent of this paper to include only the production in Morton and Stevens Counties, Kansas and the northern part of Texas County, Oklahoma, as being in the Hugoton gas field and to assume that other production is from separate structures and deserving of separate names.

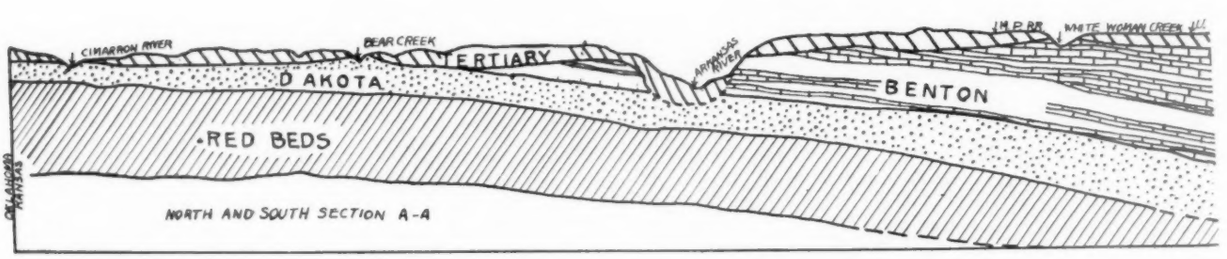
Independent Oil and Gas Company et al's Crawford 1, CSW Section 31-33s-37w, Stevens County, the discovery well, was started February 12, 1926, and drilled to 3502 feet in search of oil production. Gas shows were recorded at intervals between 2617 and 2800 feet. The well was plugged back to 2620 feet and completed on August 30, 1927, as an 8,000,000-foot gasser. The completion of this well attracted little attention and no further development work was done until the latter part of 1929, when Argus Gas Company and Trees Oil Company entered the area. Trees Oil Company completed its Grundy 1, CSW Section 3-35s-38w, as a 11,000,000-foot gas well on December 23, 1929 and three days later Argus Gas Company completed its Carpenter 1, C NW NW Section 29-33s-36w, as an 8,000,000-foot gasser. The former well is located about eight miles southwest of the discovery well and the latter about eight miles northeast of it. Shortly after the beginning of 1930 Argus Gas Company commenced drilling several wells and during the first eight months of the year the area was the scene of a majority of the new work in Kansas.

General Features

Kansas is a part of the Great Plains region which extends from the Dakotas to Texas and from the Rocky Mountains eastward to the Mississippi river. It has the uniformly gentle slope and simple geologic structural conditions typical of the plains region. The surface of the state has a general inclination from west to east amounting to approximately 10 feet per mile and a general relief of 2750 feet to 3000 feet being 3500 to 4000 feet at the western boundary and 750 to 1000 feet at the eastern boundary. Practically all of the formations lie almost perfectly flat and are exposed in broad north-south bands across the state.

Surface Formations

The greatest part of western Kansas is covered by beds of the Ogalalla formation of tertiary age, composed chiefly of sands, gravelly sands, and gravels. In many areas the gravels are cemented with carbonate of lime having the appearance of rough mortar, a characteristic which has given then the name of "mortar beds." They contain pebbles varying in size from four to five inches, composed of



North-South cross section along the Kansas and Colorado line

granite, syenite, porphyry, basalt, and other igneous rocks evidently derived from the erosion of crystalline masses to the west. In several of the deeper stream beds long narrow exposures of Dakota sandstone, generally believed to be the basal division of the Upper Cretaceous, are found in Morton and Stevens Counties. The surface beds dip gently southeastward.

Subsurface Formations

The subsurface formations, so far as the Hugoton gas field is concerned, include only the Dakota sandstone, the Cimarron Group of the Permian, a part of the Big Blue Group of the Permian, and in one well, a part of the upper Pennsylvanian. Prior to the development of the new gas area, little work had been done on the formations of southwestern Kansas, and with the exception of a few general papers, nothing has been published on this part of the state. The type of formation records yielded by reports from rotary drilled wells, makes subdivision of the subsurface section extremely difficult. This difficulty is increased by the fact that only a few horizons can be definitely recognized in the Permian section and only one well has been drilled into Pennsylvanian rocks.

Subdivision of the Permian System of Kansas.[1]

Group	Formation	Member
Cimarron	Greer	Big Basin sandstone shale.
	Woodward	Day Creek dolomite. White Horse sandstone. Dog Creek shale.
	Cave Creek	Shimer gypsum. Jenkins shale. Medicine Lodge gypsum.
	Enid	Flowerpot shale. Cedar Hills sandstone. Salt Plain shale. Harper sandstone.
Big Blue	Wellington	Undifferentiated.
	Marion	Pearl shale. Herington limestone. Enterprise shale. Lula limestone.
	Chase	Winfield limestone. Doyle shale. Fort Riley limestone. Florence flint. Matfield shale. Wreford limestone.
	Council Grove	Garrison shale and limestone. Cottonwood limestone.

The upper 300 feet shown in well logs is sand, shale and gravels with abundant water producing horizons at intervals of about 100 feet. No careful distinction can be made between the Tertiary beds and the Dakota sandstone but it is believed that the upper 50 to 75 feet is Tertiary and the remainder Dakota. One or two wells have logged a thin limestone between 350 and 400 feet, which appears to be equivalent to the Day Creek dolomite member.

Gas at 2600 Feet

The gas zone is encountered at an average depth of 2600 feet below the surface, varying from approximately 2440 feet to 2900 feet. Based on the records from 36 wells it has an average thickness of 231 feet. Production is obtained from a light gray to brown, finely crystalline dolomite, very highly porous in places. There are three general gas horizons lying approximately 20, 100 and 170 feet below the top of the zone. Logs from several of the wells indicate the largest volume in the lower horizon but the amount of gas obtained in each of the three horizons varies among individual wells; and no general rule may be laid down at this time.

Exact correlation on the producing zone is problematical, although it ties in very nicely with the "Big Lime" series of Wichita-Albany age in the Amarillo district. With the exception of size of production, the two areas are very similar both as to stratigraphy and rock pressure. Further development of the Hugoton area may show them to be somewhat similar structurally.

The top of the zone apparently lies about 350 feet below the base of the Cimarron Group and about 500 feet above the top of the Pennsylvanian.[2] This correlation places the top of the zone as equivalent to the top of the Chase formation of the Permian Big Blue Group.

Although wells have been completed over a wide area, the only structural condition so far revealed is a broad eastward nosing with no closure based on the top of the gas zone. The geologic department of one company shows a closure about midway on the Morton-Stevens county line, drawn on the base of the red beds.

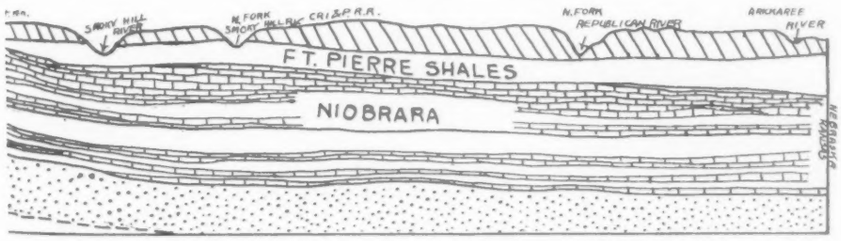
Drilling Methods

With the exception of a few of the early wells, rotary tools have been used to drill to the top of the gas zone, at which point the rig is standardized and drilled in with cable tools. The unconsolidated character of many of the upper sands and the fact that several of them contain large amounts of water, make the rotary method most adaptable. Equipment of the general Texas type, or what might be called the pre-Oklahoma City type of Mid-Continent rotary equipment, is in use.

Twelve and a half or 12⅝-inch casing

[1]Oil and Gas Resources of Kansas, Part II, Bulletin 6, pp 54.

[2]Folger, Anthony. "Oil and Gas Development in Southeastern Colorado, Southwestern Kansas, Southeastern New Mexico, and the Texas Panhandle."



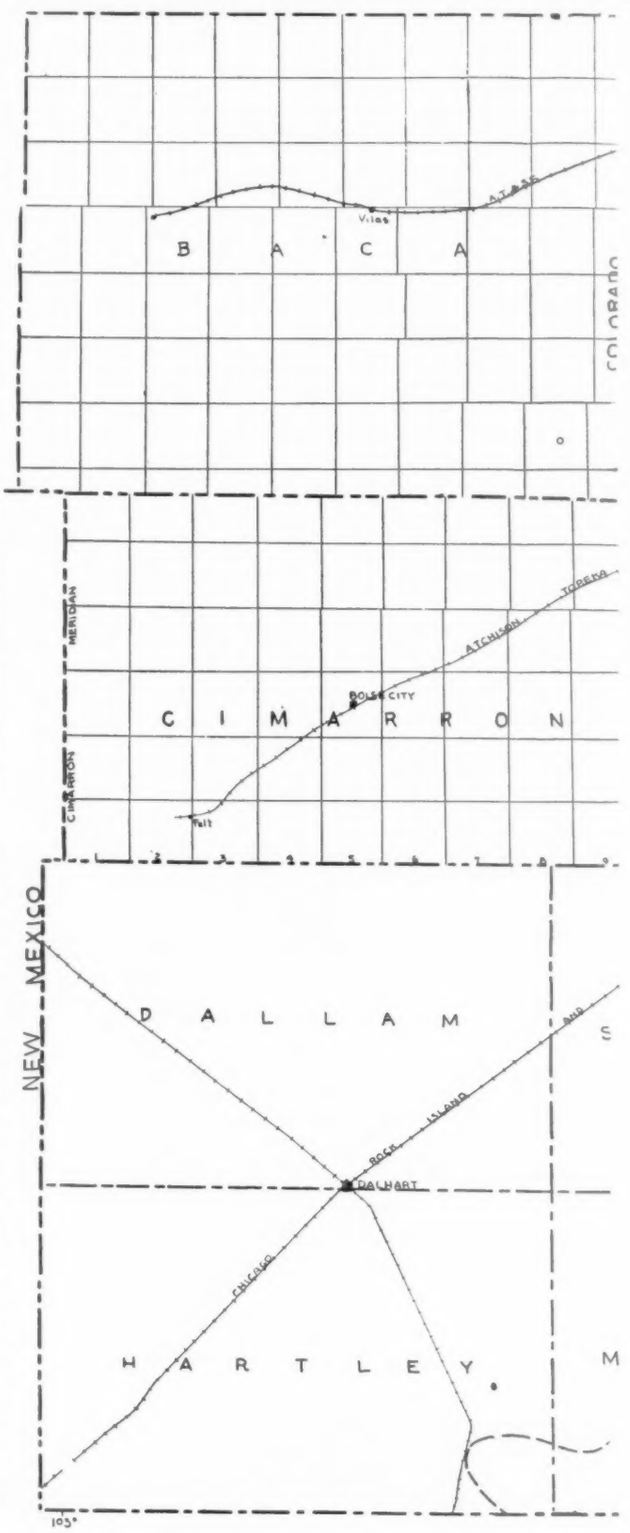
Log of the Discovery Well

Independent Oil and Gas Company et al, Crawford 1, CSW, Section 31-33s-37w. Commenced drilling, 2-12-26; Completed Drilling, 8-30-27. Elevation, 3150 feet. Initial production, 8 million gas. Casing Record: 12½", 578 ft.; 10", 850 ft.; 8¼", 1750 ft.; 6⅝", 2735 ft.; 5 3/16", 3450 ft.

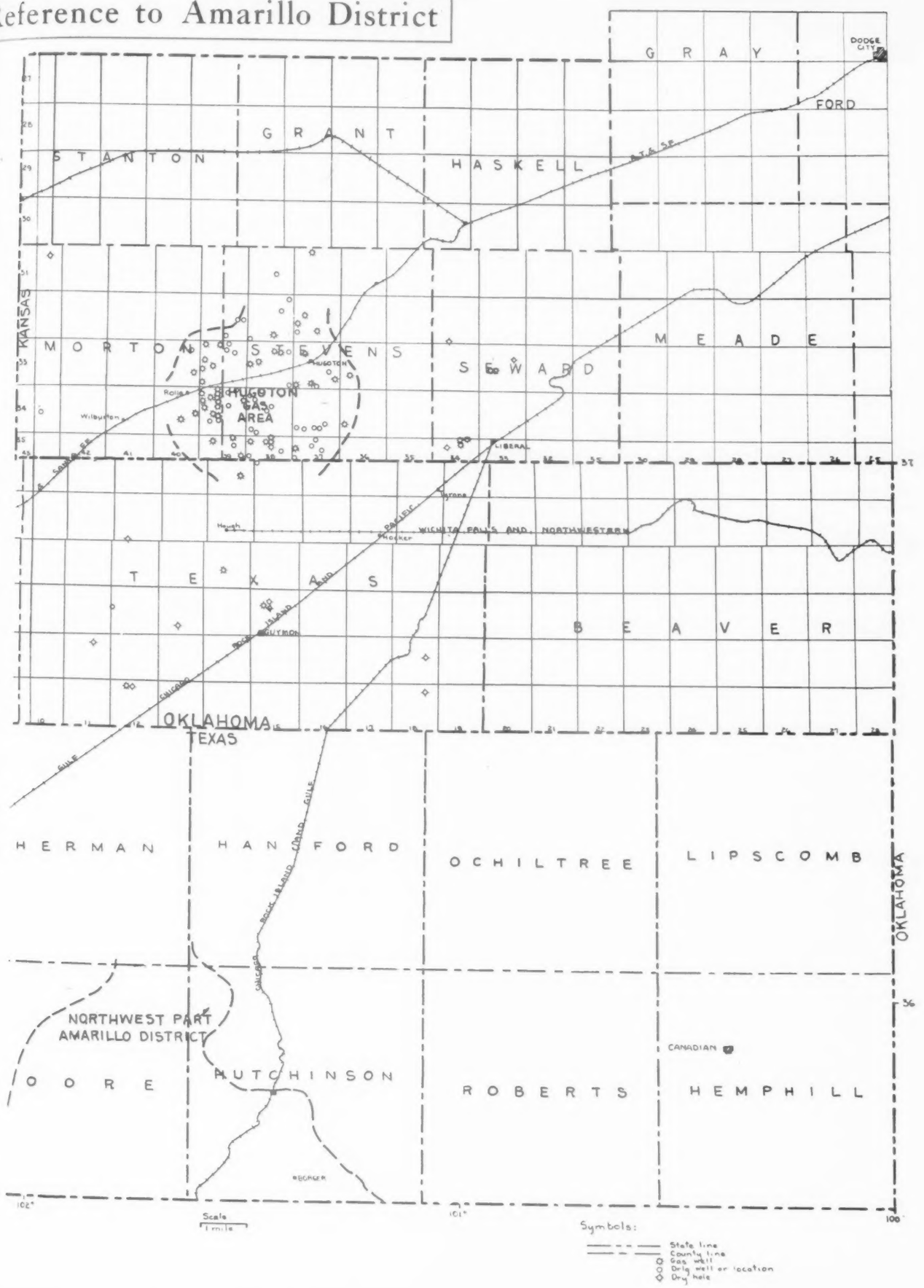
Formation	Depth
Soft yellow clay	45
Soft, dry, yellow river sand	55
Soft, yellow, sandy clay	120
Soft gray water sand—Fresh water	160
Red rock and soft gray river sand	225
Soft, yellow quick sand (caving badly)	440
Soft grey river sand	565
Soft red rock	640
Soft grey river sand—HFW	650
Soft red rock	690
Hard white lime and gypsum	700
Soft red rock	865
Hard grey lime	875
Soft red rock	883
Soft red quick sand	890
Soft red rock	984
Hard pink sand	1000
Soft red rock	1085
Hard white lime	1135
Soft red rock	1160
Hard white lime	1175
Soft red rock	1180
Soft red river sand—water	1271
Very soft light sand rock	1365
Light hard sandy lime	1550
Hard light lime	1555
Soft red rock	1562
Hard light lime	1565
Soft red sand	1610
Soft red rock	1670
Top of lower Enid anhydrite[2]	1670
Hard red lime	1765
Soft brown slate	1810
Soft red rock	1845
Soft grey sand	1905
(5 bbls. water per hour)	1850-1860
Soft red rock	2240
Soft blue slate	2281
Hard white lime and quartz	2285
Soft blue slate	2330
Top of Wellington Anhydrite[2]	2330
Hard white lime	2337
Slate and shells mixed	2587
Hard brown sand	2600
Soft blue slate	2612
Hard brown sand	2630
Showing of gas at 2617, increasing	
Hard brown sandy lime	2700
Medium hard light sand	2730
Soft blue slate	2740
Gas from 2740	
Approx. base Wellington[2]	2585
Light sand	2750
Soft blue slate	2760
Soft light sand	2800
To 2800 about 5 million gas	
Soft blue chat	2805
Hard blue lime	2830
Hard blue sandy lime	2895
500 feet water in hole	2895-2900
Hard light sandy lime	2905
Soft red rock	2917
Extra hard light lime	3015
Light slate and shells	3055
Hard light lime	3072
Red rock	3080
Approx. Permian-Penna. contact[2]	3080
Red slate and shells	3095
Hard light lime	3115
Hard dark lime	3125
Light slate and shells	3150
Soft blue slate and shell (hole caving)	3170
Light slate and shells	3212
Water increased about 1 bbl per hour from 3212 to	3240
Soft dark sand	3230
Hard dark sand	3240
Soft dark slate	3250
Hard dark sandy lime	3275
Hard light sandy lime	3298
Soft black slate	3355
Hard white lime	3360
Hard light lime	3410
Hard brown broken lime	3425
Soft brown slate and shells (hole caving)	3450
Soft dark slate	3455
Soft dark slate and shells	3480
Salt water from 3480 to	3495
Soft white water sand	3495
Hard light lime	3502
Total depth, SLM	3502
Plugged back to 2620 and making about 8,000,000 cubic feet gas.	

[2]Daniels, J. I., Continental Oil Company. "Data on Deep Wells in Southwestern Kansas and Adjoining States." Pp 137, Proceedings of the Fourth Annual Field Conference of the Kansas Geological Society, 1930.

Hugoton Gas Area, Kansas With



Reference to Amarillo District



RECORD OF COMPLETED WELLS—AUGUST 25, 1930
HUGOTON GAS AREA

MORTON COUNTY, KANSAS

Operator and Well—	Location	Date Completed	Casing	Record	Producing Horizon	Total Depth	Initial Production M Cu. Ft.**	Remarks:
Argus Gas Co., A. D. Mangells 1	cse 4-33s-39w	8- 1-30	8¼"	2527	2543-2770	3315 pb 2773	1500	
Argus Gas Co., W. Mangells 1	csw 19-33s-39w	7-12-30	8¼"	2552	2571-2752	2906 pb 2752	1000	Show water 2906
Argus Gas Co., E. E. Mangells 1	cne 20-33s-39w	7-27-30	8¼"	2400	2482-2700	2704	8000	
Argus Gas Co., Hayward 1	cnw 31-33s-39w	7-12-30	8⅝"	2575	2587-2765	2830 pb 2785	13500	Show water 2830
Argus Gas Co., W. Mangells 2	cnw 4-34s-39w	7- 7-30	8¼"	2592	2607-2851	2851	8000	
Argus Gas Co., Armstrong 2	csw 4-34s-39w	6-12-30	8¼"	2550	2610-2880	2880	12000	
Argus Gas Co., M. Mangles 1	csw 6-34s-39w	6-12-30	8¼"	2521	2632-2900	2900	3000	
Argus Gas Co., Thompson 1	csw 7-34s-39w	6-25-30	8¼"	2507	2528-2862	2900	2000	
Argus Gas Co., Rolla State Bank 1	cnw 8-34s-39w	7- 5-30	8¼"	2560	2601-2795	2852	3000	
Argus Gas Co., Dreibelbis 1	cne 9-34s-39w	7- 5-30	8⅝"	2545	2568-2843	2900	3000	
Argus Gas Co., Hayward 1	csw 9-34s-39w	7-12-30	8⅝"	2600	2603-2773	2781	14000	
Argus Gas Co., Armstrong 1	cnw 16-34s-39w	4-24-30	No record		2652-2932	2933	8500	
Argus Gas Co., Thompson 1	cnw 18-34s-39w	8-13-30	8¼"	2478	2481-2801	2810	3500	
Argus Gas Co., Dixon 1	cse 18-34s-39w	6-10-30	8¼"	2545	2618-2900	2900	4000	
Argus Gas Co., Dorth 1	cne 20-34s-39w	7-18-30	8⅝"	2500	2582-2841	2850	7000	
Argus Gas Co., Morgan 1	cse 6-33s-39w	7-25-30	8¼"	2453	2510-2750	2750	2000	
Argus Gas Co., Garner 1	cse 18-33s-39w	8- 8-30	8¼"	2459	2467-2632	2713	2500	
Argus Gas Co., Libon 1	cne 2-34s-39w	8-23-29	8⅝"	2516	2605-2731	2762	15000	
Argus Gas Co., Armstrong 3	cse 3-34s-39w	6-20-30	8¼"	2554	2581-2896	2903	7000	
Argus Gas Co., Dreibelbis 2	cnw 9-34s-39w	8-10-30	8¼"	2586	2610-2703	2760	4000	
Argus Gas Co., Tillett 1	csw 21-34s-39w	8-18-30	8¼"	2514	2592-2803	2840	6000	
McNabb et al, Rickart 1	cse 5-35s-39w	7-28-30	8⅝"	2546	2660-2787	2805	6000	
Argus Gas Co., Chambers 1	cnw 25-33s-40w	6-28-30	8¼"	2543	2568-2832	2856	6500	
Argus Gas Co., Burton 1	cse 11-34s-40w	8- 1-30	8¼"	2428	2437-2683	2761 pb 2700	1500	Show water 2761
Argus Gas Co., Littell 1	cse 24-34s-40w	6-30-30	8¼"	2534	2572-2892	2902	7500	
Argus Gas Co., Watson 1	cne 27-34s-40w	8-10-30	8¼"	2440	2482-2593	2640	2000	
Unknown, Wilson 1	nwc, nw, sw 16-32s-41w							Dry

STEVENS COUNTY, KANSAS

Operator and Well—	Location	Date Completed	Casing	Record	Producing Horizon	Total Depth	Initial Production M Cu. Ft.**	Remarks:
Argus Gas Co., Carpenter 1	cnw, nw 29-33s-36w	12-26-29	12½"	337				
			8¼"	2201	2620-2780	2816	8000	400 lbs. R. P.
			12½"	482				
Argus Gas Co., Parker 1	cne 30-34s-36w	5- 7-30	8¼"	2649	2675-2877	2900	4165	
Argus Gas Co., Hobble 1	cse 17-32s-37w	4-26-30	8¼"	2409	2610-2883	2883	5000	
Argus Gas Co., Crawford (Cross) 1	cse 19-32s-37w	5-24-30	8¼"	2600	2660-2873	2873	13000	
Argus Gas Co., Porter 1	csw 27-32s-37w	6- 1-30	8¼"	2593	2593-2850	2850	2000	
Argus Gas Co., Ratcliff 1	cse 8-33s-37w	7-15-30	8⅝"	2493	2507-2773	2773	1000	
Argus Gas Co., Stevens 1	nwc nw 16-33s-37w	No record	No record		No record	1498		Dry
Argus Gas Co., Smith 1	csw 13-33s-37w	4- 8-30	12½"	577				
			8¼"	2577	No record	2891	3000	
			12½"	578				
			10 "	850				
Independent O. & G. Co., Crawford 1	csw 31-33s-37w	8-30-27	8¼"	1750	2587-2600	3502 pb 2620	8000	
			6⅝"	2735				
			5-3/16"	3450				
Argus Gas Co., Sherwood 1	cnw 33-33s-37w	5-24-30	8¼"	2585	2650-2854	2854	5000	
McNabb et al, Crawford 2	cne 32-33s-37w	8-15-30	8⅝"	2575	2620-2770	2803	8000	
Argus Gas Co., Asher 1	cnw 7-34s-37w	6-20-30	8¼"	2586	2607-2902	2902	5000	
Fredell Const. Co., Persinger 1	cse 22-31s-38w	8- 9-30	8⅝"	2446	2455-2510	2650	6000	
Argus Gas Co., Roach 1	cne 34-32s-38w	7- 6-30	8⅝"	2530	2552-2873	2886	5000	
			20 "	21				
			15½"	550				
			12½"	1280				
McNabb et al, Horn 1	sec, se, ne 10-33s-38w	No record	10 "	1420	2690-2713	2713	12000	
			8¼"	2102				
			6⅝"	2406				
			12½"	560				
McNabb et al, Ramey 1	csw 11-33s-38w	5- 1-30	8¼"	2503	2505-2786	2786	5000	
Argus Gas Co., Wagner 1	cs½, se 17-33s-38w	8- 3-30	8⅝"	2467	2492-2752	2757	5000	
Agate Oil Co. & McNabb, Gregory 1	cnw 19-33s-38w	8-20-30	8⅝"	2470	2510-2732	2785	5000	
Argus Gas Co., Barrows 1	csw 32-34s-38w	6-10-30	8¼"	2483	2628-2900	2900	5000	
Trees Oil Co., Breicheson 1	cnw 3-35s-38w	7-28-30	8⅝"	2585	2618-2825	2825	10000	
			12½"	275				
Trees Oil Co., Grundy 1	csw 3-35s-38w	12-23-29	6⅝"	2580	2605-2780	2780	11000	
Trees Oil Co., Mitchell 1	cse 3-35s-38w	7- 5-30	8⅝"	2607	2612-2810	2818	7000	
Trees Oil Co., Lowry 1	cse 4-35s-38w	5-24-30	8¼"	2480	2610-2696	2696	7000	
Argus Gas Co., Shaffer 1	cse 6-35s-38w	8-14-30	8⅝"	2574	2623-2788	2835	3500	
Trees Oil Co., Meyers 1	cnw 10-35s-38w	7-11-30	8⅝"	2600	2636-2797	2797	8000	
Barrington et al, Creamers 1	cnw 2-35s-39w	8- 8-30	No record		2625-2710	2710	7000	
Argus Gas Co., Stone 1	cne 3-33s-39w	7-26-30	8⅝"	2505	2532-2705	2705	8000	
Argus Gas Co., Christopher 1	csw 11-33s-39w	5- 6-30	8¼"	2456	2460-2790	2790	12035	
Argus Gas Co., Pride 1	csw 25-33s-39w	5-23-30	8¼"	2585	2626-2890	2890	5500	
Argus Gas Co., Armstrong 3	cse 3-34s-39w	7-23-30	No record		2578-2903	2903	12000	
Argus Gas Co., Hicks 1	cse 12-34s-39w	5-13-30	8¼"	2535	2668-2830	2830	5000	
Argus Gas Co., Fee 1	cne 15-34s-39w	8-14-30	8⅝"	2516	2631-2743	2789	9000	
			Total initial Morton-Stevens Counties				362,208	

TEXAS COUNTY, OKLAHOMA

Operator and Well—	Location	Date Completed	Casing	Record	Producing Horizon	Total Depth	Initial Production M Cu. Ft.**	Remarks:
Home Development Co., Allison 1	nw sw 4- 1n-11e C.M.*	12- 3-22	No record		2695-2707	3040	15000	
			15¼"	150				
			10 "	2229				
Wilcox O & G Co., G. S. Hovey 1	se se se 21- 4n-14e C.M.*	11- 3-26	8¼"	2771	2610-2693	4411 pb 2751	3000	300 lbs. R. P.
			6⅝"	3809				
M. M. Valerius, Unknown 1	nw sw 18- 3n-12e C.M.*	No record	No record		No record	4000	Dry	
					2690			
Dilard Easterwood, M. M. Valerius 2	se 32- 5n-12e C.M.*	No record	No record		3339-3940	4001	1000	
			20 "	137				
			15½"	225				
Reiter-Foster, Hurliman 1	csw 9- 3n-15e C.M.*	No record	12½"	758	2457-2643	3500	7000	Big gas 2605-2643
			10 "	1405				
			8¼"	1918				
			20 "	257				
			15½"	872				
			12½"	1242				
Reiter-Foster, Kugle 1	cne 10- 2n-11e C.M.*	No record	10 "	1542	2607-2633	3503	No record	Abandoned
			8¼"	2580				
			6⅝"	3188				
			5-3/16"	3322				
			12½"	598				
Argus Gas Co., Ralstin 1	csw 23- 6n-14e C.M.*	5-27-30	8¼"	2566	2775-2866	2950	4000	430 lbs. R P.

*Cimarron Meridian.
**M = 1000 Cubic Feet.

is set for surface pipe at an average depth of 735 feet, and 8¼ or 8⅝-inch casing for water and production string. Most of the operators are using A.P.I. standard seamless casing.

Production

Initial volumes of the wells range from approximately 1,000,000 cubic feet to 15,000,000 cubic feet. As of August 25, 1930, with 57 wells completed in Morton and Stevens Counties, the total initial volume was 362,208,000 cubic feet, or an average of about 6,350,000 cubic feet per well. Lateral variation of rock pressure is from 420 to 440 pounds with no apparent vertical variation.

As has been stated heretofore, the Hugoton and Amarillo districts show a marked similarity stratigraphically and as to rock pressure. Wells in the latter district had initial volumes in excess of 100,000,000 cubic feet at pressures of about 430 to 440 pounds. During the summer of 1926 gas pressure in the Borger field in the Amarillo district declined rapidly. Wells which had initial pressures of 430 pounds declined to 320 pounds in October, 1926, and on the following June had declined to 160 pounds. During this period a large amount of gas was used in the manufacture of carbon black and millions of cubic feet were blown into the air daily. Due to the difference in the manner of producing the two areas, the decline in the Borger area is of little value in estimating the probable decline in the Hugoton field. Three wells in Texas County, Oklahoma, apparently producing from the same horizons, have been supplying several of the larger towns in the Oklahoma Panhandle since the early part of 1923. It is reported that Morton and Stevens wells which have been supplying Dodge City and Garden City as well as several of the smaller Kansas towns, have shown practically no decline in rock pressure.

Three major pipe lines and a number of smaller lines will serve the field if present rumors materialize. Argus Pipe Line Company has an eight-inch line, 86 miles long to Dodge City, Kansas, and is supplying 15 or 20 towns in the southwestern part of the state. Missouri Valley Gas Company has under construction, a 24-inch line which will extend from the Texas Panhandle through the southeastern part of Stevens County and terminate at Omaha, Nebraska. This line will have a daily capacity of 120,000,000 cubic feet. Two other lines of large capacity probably will be constructed through the Hugoton area and deliver gas to Mid-Western markets, and a six-inch line is proposed from Hugoton to Lamar, Colorado, a distance of 91 miles.

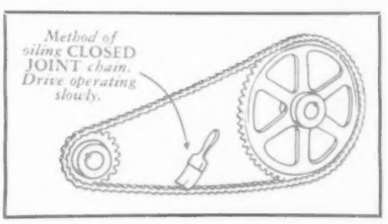
Lubrication of Rotary Sprocket Chains

By C. R. WEISS

Chief Engineer, Link-Belt Company, Indianapolis, Indiana

TIMES are temporarily dull but soon we will all be busy again, and now is the logical moment in which to figure how to make equipment last longer when again put into intensive production.

We would not consider running our automobiles without oil, as we know that if we do we will have grief. Yet there are operators who run their rotary chains without lubricants, and they have grief.



A heavy tacky oil will not flow, hence, it will not penetrate to the chain joints. As the running speeds are fast, the bearing surfaces rub together rapidly, and friction results. Without lubrication galling commences, and as the metal parts wear away, the chain pitch increases to the point where the chain will not properly run on the sprockets.

For the best results a good grade of lubricating oil should be used. This can be of any of the well known steam cylinder or crank case grades.

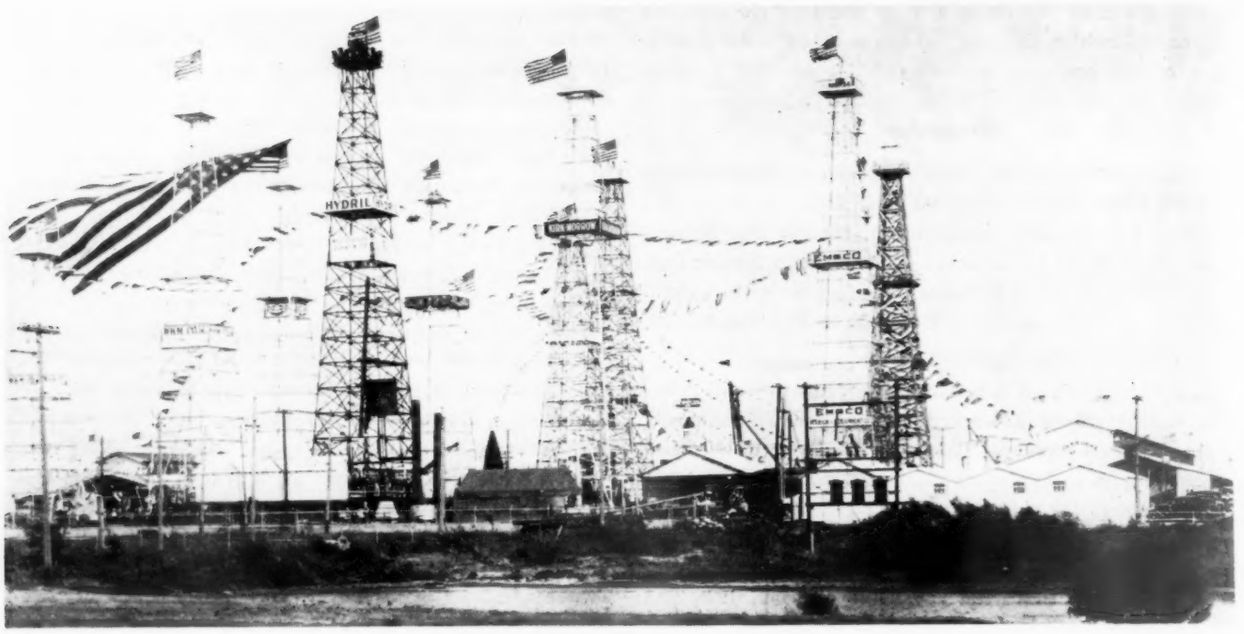
To receive full benefit from the oil, it must be properly applied to the chain. If it is poured from a can on to the back of the chain while chain it running at high speed, little of the oil reaches the bearing surfaces of the chain joints, because the centrifugal force throws it outward.

A satisfactory method is to brush the inside of the chain (that which comes next to the sprocket teeth), using a wide brush saturated with the oil. The chain can be run slowly and the brush will spread the oil on the inside of the chain. From here the centrifugal force will throw it outward, but as its outward passage has to pass the bearing surfaces, it will naturally penetrate to these surfaces, and the necessary oil film is provided.

Because of the increasingly heavy demand on the rotary chain drive, due to increased speed and load, the necessity for proper lubrication has become more acute.

The chain manufacturers have attempted to do their part by improving the quality of their product, and several rotary chains are now made with great precision, and co-operating parts are accurately ground. The condition of the link pitch holes is closely watched, and everything possible has been done to distribute the load on the chain into proper balance.

The chain sprockets should be in alignment with each other, and the shafts parallel and level with respect to each other. The sprocket teeth should be inspected to make sure that the load is being transferred uniformly from the tooth flanks to the chain rollers.



Mr. Executive Send Your Men To the Exposition...

It Means Money to You

WE know of one oil company that hangs up, as a kind of prize each year, a trip to the International Petroleum Exposition with expenses paid for its men who have indicated through their work more than ordinary interest in improved methods.

It is a pity that all oil companies do not have a system something like this.

There is just one better system and that is to assign a definite number of men from each organization to attend the exposition and require that those men make a report to their fellow workers on the important equipment seen there.

When one considers that the very cream of advanced ideas in equipment is to be seen at the exposition and when one considers further that a good percentage of the important improvement in methods of producing and transporting oil have originated in the engineering departments of manufacturers and are reflected in what is to be seen at the exposition, it is apparent at once that the exposition offers an extremely valuable opportunity.

It has been our observation that each year the interest in the exposition itself on the part of oil men attending it has been more pronounced and that the early idea of making the exposition a "Whoopee" affair is dying out. This is as it should be. The exposition is a business proposition and an opportunity, not a vacation.

Mr. Executive, if you have not planned to send at least some of your employes to the International Petroleum Exposition you are passing up a bet that will make you money.

"This Is Joe!"—

"OH! yes, Derricks for the Fee. We're all fixed there. Parkersburg's man said they'd have them here tonight.... Yes, Sir....A.P.I. Standard....Heavy? ....Sure, good for four hundred thousand and better..... Won't need relegs. Yes. .....So the Rig builder said.....That's right, and they like 'em fine.

"Not a chance—those boys deliver the goods.....Can always depend on Parkersburg..... Yes..... Every time. .....It's the best service in the field..... Their equipment stacks up the same way.

"All right, I'll order their steel Front too..... Sure..... No question about that.....Okay."

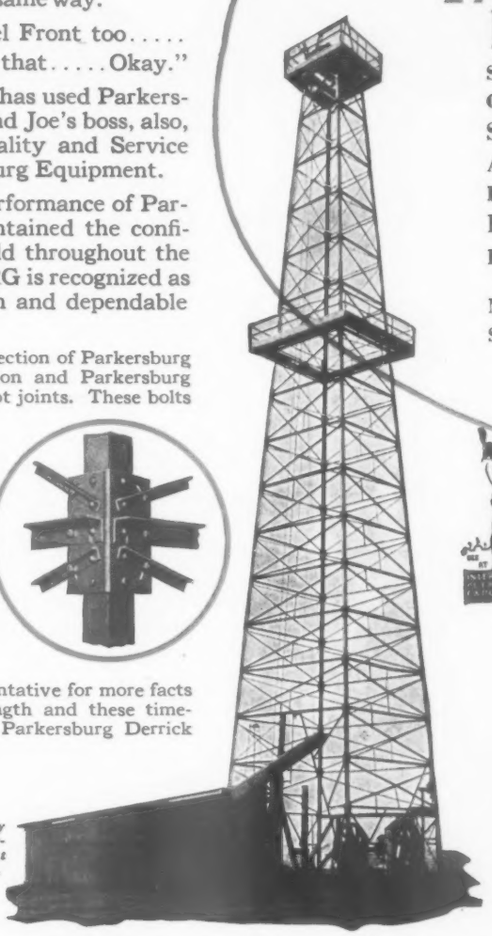
So it goes. Every oil man who has used Parkersburg Derricks feels like Joe. And Joe's boss, also, knows the extra value of Quality and Service which comes with all Parkersburg Equipment.

For over thirty-three years, performance of Parkersburg Equipment has maintained the confidence of producers in every field throughout the world. Today PARKERSBURG is recognized as the leader in better fabrication and dependable service.

The exceptional ease and speed of erection of Parkersburg Derricks is due to better fabrication and Parkersburg Patented "One Wrench" bolt and slot joints. These bolts cannot turn. When tightened with lock washers, there is 50 per cent less chance of their loosening. They are 50 per cent more fool-proof and correspondingly safer for your Derricks.

Added strength and safety comes with interchangeable legs which form complete butt-to-butt contact and eliminates shear strain on bolts. The load is carried straight down the Derrick leg like a single column of steel.

Ask the nearest Parkersburg representative for more facts or convince yourself of extra strength and these time-saving features by a trial. Set a Parkersburg Derrick over your next location.



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Chain-Driven Sand Reels and Bailing Reels
Steel Wheels
All-Steel Standard Rigs
Bolted Steel and Aluminum Tanks
Rig Irons
Portable Drilling Machines (Wood and Combination-Steel)
Miscellaneous Drilling Equipment
Steel Walking Beams and Pitmans

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167-A

BACK in 1921-1922 H. D. Easton discovered and mapped a large structure at Zwolle, on Thanksgiving, 1928, the first discovery well was brought in on his location, this being a well of rather phenomenal behavior in that its flow increased steadily; on Thanksgiving Day, 1929, the second discovery was made on his location, an even 12 miles farther east on this structure, this well having made about $1,500,000 in oil and still a good producer, and then to climax these discoveries, this production is coming from a formation not known before and designated by Easton as the Zwolle marl.

This structure, which Easton claimed to be some 35 miles long in its east-west direction, is now proven for a length of more than 17 miles, with its high-grade oil coming from this new formation. A large area is now open for development work and there is a fair prospect that the field will be fully as large as originally specified.

A portion of Easton's general structure map of Zwolle region was published in THE OIL WEEKLY, *December 13, 1929, page 289. This did not include his mapping of the west end of the structure which lies in Texas and across the Sabine River, nor did it include his mapping of Range 11 west, where production is now had farther east than his second discovery. The east portion of the map, which was not published, shows why he predicted a length of 35 miles for this oil field.*

At present neither the east-west nor the north-south limits have been defined. It seems probable that the north-south width of the producing area will be variable but may amount to as much as eight miles in some places and much narrower in others. This question of north-south extent depends largely on the area in which will be found the Zwolle marl, a matter of scientific and practical interest since this Zwolle marl is something unknown heretofore as a producing horizon—or even as existing at all.

It is not the design of the writer to discuss the Zwolle field in general, but rather to call attention to this new formation, to its origin, composition, oil content, and to the methods best adapted to completing these shallow wells of high-grade oil where there is but little pressure to make them flow.

Composition —Best *For Completing Producing*

By H. D. EASTON
Petroleum Geologist

THE present production at Zwolle is largely from a marl immediately overlying the Annona chalk rock. In as much as it is the common practice of geologists to name each formation after some town (usually applying the name of some town located on the outcrops at some type locality) this producing horizon has become known as the Zwolle marl.

This marl has not been noted elsewhere and it is limited in its areal distribution to an east-west belt along the south flank of the Sabine uplift. The accompanying sketch illustrates its stratigraphic position, manner of origin and general composition.

This sketch diagram may be considered as a section view of beds to be penetrated by the drilling bit, the section reaching from Arkansas southward to Zwolle. Whereas there is considerable thickness of the Arkadelphia, Nacatoch, and Marlbrook marl (Saratoga chalk) formation in Arkansas, each of these has thinned out southward and nearly disappeared completely at Zwolle. This southward thinning of each of these three formations results in combining their remanats in the Zwolle area.

There is a major unconformity between the Tertiary and the Cretaceous (at the base of the Midway), and this unconformity has dropped down to near the top of the Annona chalk at Zwolle, and rests directly upon the Annona still farther south. This is due to the thinning out, southward, of the Arkadelphia, Nacatoch and Marlbrook marl. The Zwolle marl, itself, may be looked upon as composed of remnants of these three formations; more or less, or none, of each of these three are to be expected at any one spot where cores are taken, but no two wells need show the same composition.

But there are three lesser unconformities. One between the Arkadelphia and the Nacatoch, one between the Nacatoch and the Marlbrook marl, and one between the Marlbrook marl and the Annona chalk. Hence, the Zwolle marl represents materials deposited at a major, and three lesser unconformities. As might be expected under such conditions, the cores from some wells are veritable plumpuddings that clearly show a break in sedimentation.

The very manner in which this Zwolle marl was deposited, demonstrates why paleontologists are finding forams representing everything from the Midway to the Annona, and why cores from one well will happen to show mostly Nacatoch forams whereas some nearby well may not show any Nacatoch forams at all; or why one paleontologist will disagree with another in naming the forma-

# of Swolle Marl Methods *Wells in New Formation*

tion when each is working the same core from the same well.

From the sketch and from what has been discussed, it is readily understood why the Zwolle marl will not be found farther north nor at the outcrops; it also shows why the Zwolle marl thins out southward of Zwolle so as to allow the Midway to rest directly upon the Annona chalk.

Composition of the Zwolle Marl

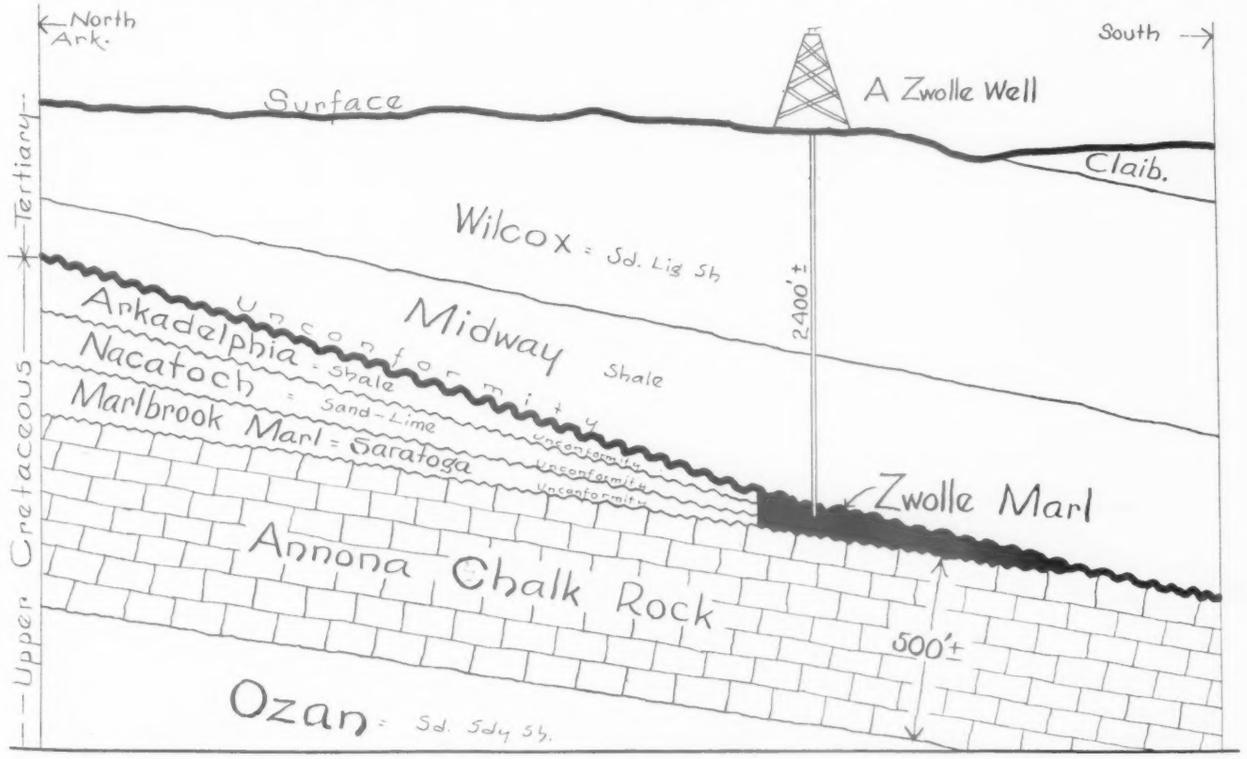
The very manner in which this Zwolle marl was deposited shows that its composition is, of necessity, variable as to sand, shale and lime content. The Nacatoch has thinned out southward from Arkansas to Zwolle so as to have disappeared almost completely, having reached its southern limits, yet some remnants are present mixed with other materials; some wells will show thin streaks of sand in the Zwolle marl, these streaks varying from almost nothing to three inches in thickness, other wells will show the marl itself to be sandy throughout, and the sand present is the fine-grained, uniform-sized, bluish sand common to the Nacatoch.

Likewise the varying amounts of shale and lime are shown in cores exactly as could be expected under this particular combination formation. Some cores show a preponderance of shale while other cores are chalky and solid streaks of white chalk are found in some wells (from two to three feet in thickness). Hardness and softness are variable, some wells finding a uniform, easily drilled marl, while others find hard and soft streaks.

As is common at contact zones, considerable pyrite is present, the two principal zones being at the top and at the base of the Zwolle marl. The base of this Zwolle marl in some wells, is a breccia—a mixture of nodules of lime and phosphate. Most of these noduels are white lime and they range from the size of shot to that of a hen's egg. (See photograph.) This breccia clearly illustrates the presence of a contact zone, or unconformity, where there was a break in deposition.

Zwolle marl is light grey in color. There is a pronounced color contrast between it and the overlying dark Midway shale, hence it is readily found and recognized in a core. A driller can find it at once if he is coring at the proper time, for the contrast is about as pronounced as that between a white man and a negro.

The thickness of the Zwolle marl is variable, and ranges from 20 feet to about 100 feet in the different parts of the present producing area. That it thins out completely to the south, is indicated by a well near Pendleton Ferry



Sketch Showing Zwolle Marl
H. D. Easton
1930

where cores show an abrupt change from the dark shales into hard white Annona chalk.

Pay in the Annona

Breaks of a granular, porous nature, below the Zwolle marl and at varying levels in the Annona chalk have proven productive, especially in the Blue Lake, or western, portion of the field. Cores from the Annona show considerable evidence of a regional "fractured zone." Slickensides are unusually plentiful and in some cases show evidence of movement in three directions. Soft and granular places are encountered; shale breaks occur; and small cracks and crevices are found, all of which, combined, provide a certain amount of scattered porosity throughout the 500 feet of Annona chalk.

The eastern end of the field shows the marl to contain sand throughout its entire thickness and it is expected that rather uniform production will be found due to this better sand condition. But certain wells will find their pay at the base of the marl, and others will continue to find oil deeper down and in the Annona. No well should be abandoned as a dry hole before testing on down to near the base of the Annona.

No Oil Shows Necessary

In planning the drilling of a well in the Zwolle field casing should be considered as necessary as the rig itself. Unless casing is to be set before penetrating the marl farther than enough to ascertain where to seat it above the Zwolle marl, the well might as well not be drilled. This statement is due to the numerous known cases where wells have come in as good producers although no preliminary showing, beyond a slight odor, was obtained even when the marl was cored with clear water as drilling fluid.

Zwolle marl takes the drilling fluid, in some wells as much as two pits of fluid are lost in drilling in. This loss of drilling fluid is looked upon as one of the best signs of making a commercial well. But it is evident that oil and gas shows will not appear under conditions where this reverse action takes place and the fluid is taken into the marl.

The best practice seems to be to set casing before drilling to any depth into the marl. Then, when about to drill in the well, every care should be taken to have everything ready, set liner and be bailing within a matter of mere hours—the pressure should not be on this Zwolle marl a single hour longer than is absolutely necessary. By using clear water to drill in these wells, the walls will not cog so much and the water, although it will penetrate deeper into the formation than would heavy mud, will return more readily upon bailing.

The very fact that there is but slight pressure on this oil makes necessary rather unusual care in drilling in these wells. Anywhere from 64 pounds to 150 pounds pressure seems to apply to the field, with the higher pressure only in earlier stages of flowing. Such low pressure makes it very necessary to use great care in order to give a well a chance to start flowing. Once flowing, the gas acts chiefly as an air-lift and will keep the well flowing only as long as the quantity of gas is able to lift the oil.

Drilling in by cable tools has been tried with no success to warrant the additional cost and time. This is a field problem to which much attention is being given by the operators and it is probable that some satisfactory general method will be evolved to handle this "low blood pressure."

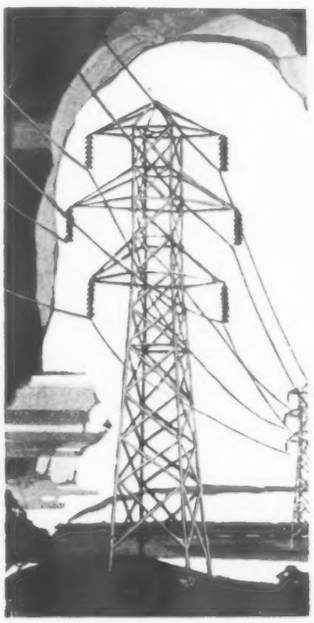
Structure; Correlations of Wells

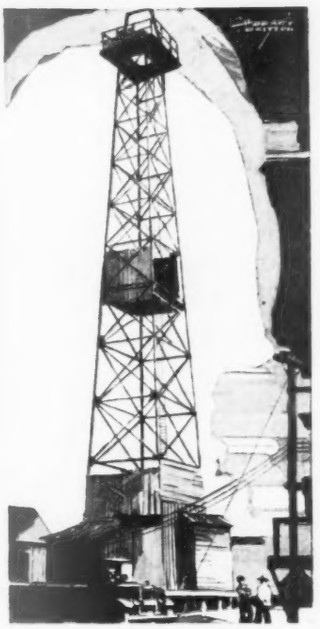
From what has been mentioned as to the thinning out of the three formations, as to the one major and three lesser unconformities, and as to the variable composition and thickness of the Zwolle marl, it is clear that structural conditions cannot be worked out on any comparison of well logs prior to the time additional depths are made so as to reach the base of the Annona.

Evidently Zwolle marl will be reached at varying subsea depths without this having any positive relation to structural conditions. Wells may readily vary as much as 100 feet without this fact enabling any correlation. Whenever deeper pay horizons bring about deeper drilling, the base of the Annona can be used with a fair degree of reliability as to structural conditions.

Deep drilling will undoubtedly show considerable faulting in the Lower Cretaceous; and this deeper structural condition has been reflected in the Upper Cretaceous to the extent of somewhat shattering it into a fractured zone. Some interesting future history is expected all along the length of this Zwolle structure whenever deep drilling is done, but for the present there is much promise of a major pool of high-grade, shallow oil, in the one portion of the United States where there is no over-production.

Fast time was made in roll welding the 10-inch line from Van, Texas, to Smiths Bluff by the welding crews on this Pure-Van pipe line job. As many as 50 to 70 roll welds per day were turned in by some of the welders. Unusually good weather conditions enabled the crews to operate without interruption





POWER

to unlock nature's treasure vaults

Nature has decreed that in proportion to the worth of its treasures, in that proportion must man pay for finding them. Oil, one of Nature's greatest treasures, taxes all the resources of man's mind to find it and to capture it. Electricity plays a prominent part in both. Its use is indispensable in the geophysical methods for locating salt domes. It provides the power for the producing, pipe line, and refining branches of the industry.

Nature's treasure vaults of oil were constructed through eons of time in geological yesterday. In America, Equatorial waters mingled with those of the Arctic flowing down to the sea, depositing layer upon layer of microscopic plants and animals. Ages of sedimentary deposits have buried deep these oil-bearing infusoria. It is fitting that electric power, the pinnacle of man's scientific endeavor, should be used to capture Nature's hidden potential power, oil.

Our engineers will be glad to supply you with complete information on the use of electric power in the producing, pipe line, or refining branches of the industry.

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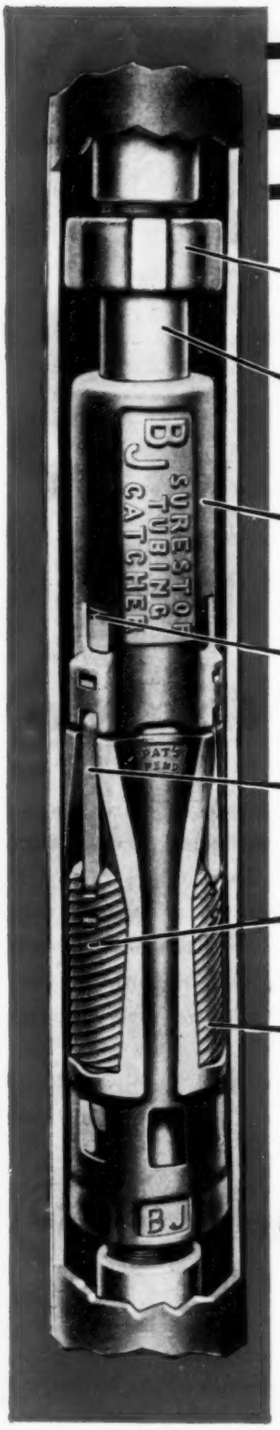
Catches in a two-inch drop without injury to tubing, casing or catcher.



HANGS VERTICAL — The guide collar head keeps the catcher vertical and centered in the casing, so that the slips will not grab while running in.

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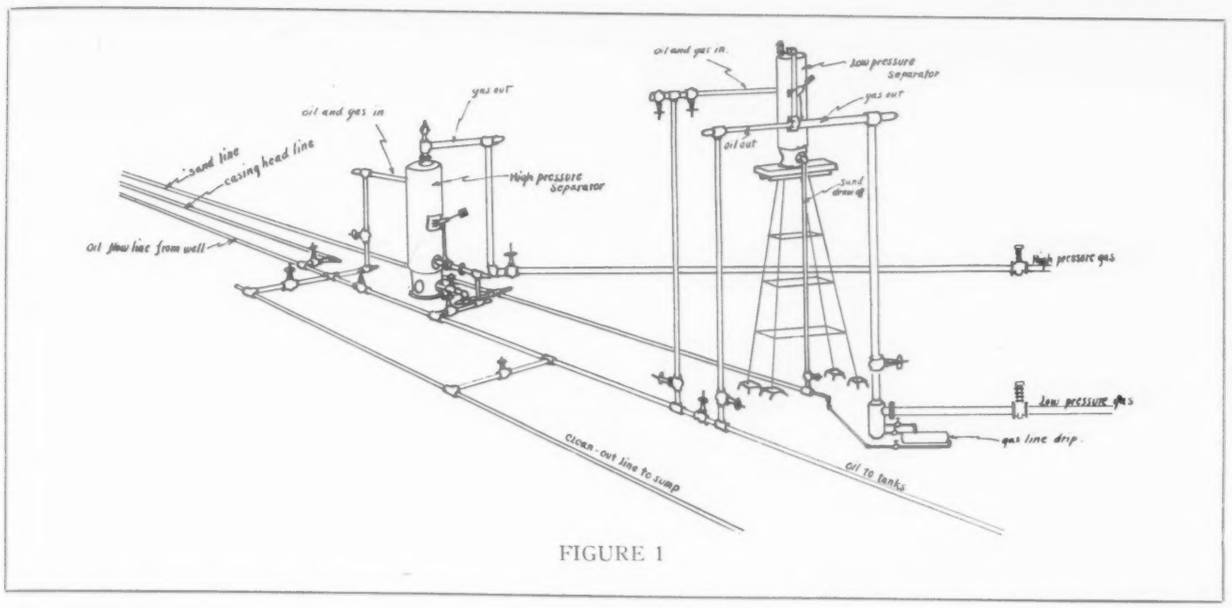

FIGURE 1

Proper Method of Installing Oil *And* Gas Separators

Paper presented before the fall meeting, Southwestern District of A. P. I. Division of Production, Galveston, Texas, September 4, 1930

By E. H. ADAMS
Trumble Gas Trap Company, Los Angeles

THERE are, no doubt, a number of proper methods for the installation of the separators, each depending on the specific operation involved and the conditions to be met in the field or at the individual well. The propriety of the hook-up will be determined by the establishment, as far as possible, of the economic factors of the case with respect to ultimate oil recovery and efficient and completely economical gasoline recovery, with careful consideration being given to the effect of the installation on the oil production of the well after the flush head is off. In this consideration the economies should not be lost sight of that may be effected in gas lift, repressuring, gas transmission, absorption and compressor plant operations.

It is perhaps, unfortunate, that so little work has been done along the lines tending to the establishment of the factors involved in separator installations, which have a real bearing on the ultimate economic recovery of the oil, as well as the efficient and economic handling of the gas in the closely allied, auxiliary, production operations. It seems apparent that, in many cases, a close contact and more complete co-operation between the production departments and gas departments of the producing companies would result in some surprising and generally speaking very satisfactory results.

There are a very large number of situations that might be discussed, but only those more commonly met with in large operations will be considered in this paper.

In general practice, the separator is usually set on the ground and it may be at the well or some distance from the well either as single well installations or in batteries at the field flow tanks. Another practice is to cut a number of wells into one separator set at some central location, and, of course, considerable distance from some wells. Then we find the separator elevated wherever it is set; and a few major installations using high and low pressure separators in series with the low pressure separator always elevated.

Should Be at Well

Why there should be this variation is hard to say without an analysis of the particular situation. It appears, however, that an analysis of the economic factors will establish that for most installations the separator should be located at the well, and, in addition, elevated to secure a minimum separator operating pressure. When and during the time that high and low pressure series separation is in order, these separators should also be located at the well and the secondary separator elevated to secure, if possible, gravity flow of the oil to the tanks, or a minimum pressure on the elevated separator. This will leave the low pressure separator already elevated when the high pressure unit is moved to another location; and it should be so elevated for low pressure flow and later gas lift operations.

Aside from minor operating labor considerations there does not seem to be any advantage in setting the traps at any considerable distance from the well. Setting the separators at the tank batteries makes it handy for the pumper to handle the switching of the traps and tanks during the

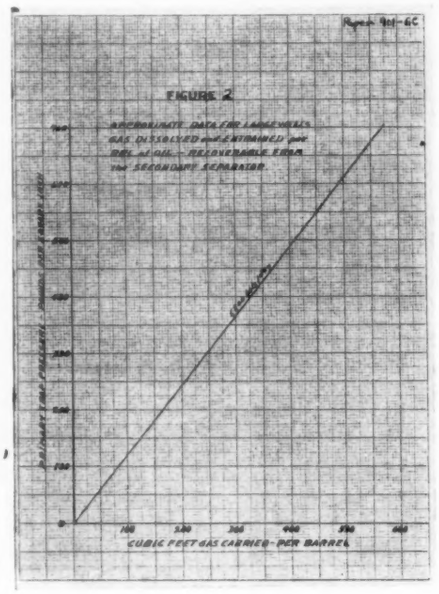

FIGURE 2

period of flush production, and the concentration of fire protection equipment at the battery is worthy of consideration. The single trap installation located at some distance from the well does not seem advisable. It is not handy to the well and is, therefore, apt to be neglected by the men handling the production. It is good practice to give operating separators some systematic attention as unnecessary loss and trouble can thereby frequently be avoided.

The setting of the separator at some central location and flowing a number of wells into it also has the same drawback as regards distance from the wells. It compounds the possible evil of the single well separator set far from the well. Some of the lead lines may be quite long, resulting in excessive and undesirable back pressure on the tubing. With this type of installation too little control of the individual well pressure is permitted, which may result in a loss of production in excess of that experienced with the single well separator set at a distance from the well, or at the tank batteries.

The back pressure that does not particularly affect one well may seriously affect the production of another or a number of others. Since, generally speaking, each well has different production characteristics which must be studied at some length in order to be reasonably sure that the most efficient production methods are being used—after the flush head is off—it does not seem reasonable that a number of wells should be cut into one separator until such time as these wells are on the pump with relatively small oil production and very little gas production.

While the flush period is on and there is an abundance of well pressure, it makes little difference where the separator is set as far as production is concerned. Considering actual efficiency of separation, we have no data to indicate that there is any difference in the separation secured by either method, at a given pressure.

However, actual cut and try experience indicates that the separator should be at the well and elevated. The desirability of elevating the separator is indicated by a study of the gas and natural gasoline content data. In other words, the technical data is supported by experience in actual operation, which is as it should be.

A few years ago, it was standard practice in California to set the separators at some distance from the well, usually at the lease tank batteries. Then as more careful and technical study of production methods became the order of the day, considering oil, gas and natural gasoline recovery, it seemed desirable that the separators should be moved close to the well and elevated to reduce as much as possible the back pressure set up on the tubing by the use of the long lead lines to the separators.

This was particularly desirable in the case of the gas lift wells. The settings were changed and the change resulted in increased production either in oil or gas or both, ranging in increased oil production from a few barrels to a maximum of about 300 barrels per day. The elevation of the separators resulted in increased gas and gasoline recovery and materially reduced the vapor losses from the field storage.

Flowing wells are frequently very touchy, particularly in their later life, and once killed the production man is fortunate who gets them back on production at their former rate. Therefore, the logical procedure is to make the initial separator installation in such a manner that as the pressure goes off it is possible to carry, at all times, a minimum back pressure on the tubing in accordance with the well characteristics.

If lease tank batteries are used care should be taken that the oil lines are sufficiently large to permit of a gravity flow from the elevated separator so that atmospheric pressure or a vacuum may be carried on the separator in order to secure the maximum recovery of gas and natural gasoline fractions at the separator, thus minimizing gasoline loss and fire hazard at the tanks.

If all low pressure separators are used to handle the large volume of flush production at atmospheric pressure, it is evident that a number of separators must be installed and the volume of low pressure gas that must be compressed to absorption plant operating pressures will be very large and the compressor plant installation and operating costs will also be very large.

This brings us to the method of handling large, flush, high pressure production that appears to be by far the most economical and satisfactory, namely, the installation of high and low pressure separators in series.

With this installation the high pressure separator or separators are set on the ground and the secondary separator is elevated at sufficient height to secure gravity flow to

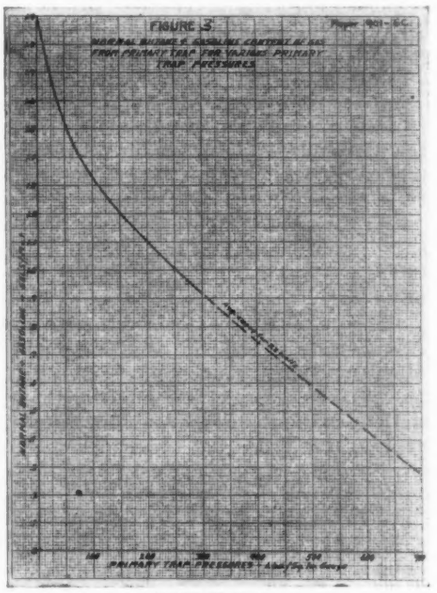

FIGURE 3

A Man to Do A Man's Work

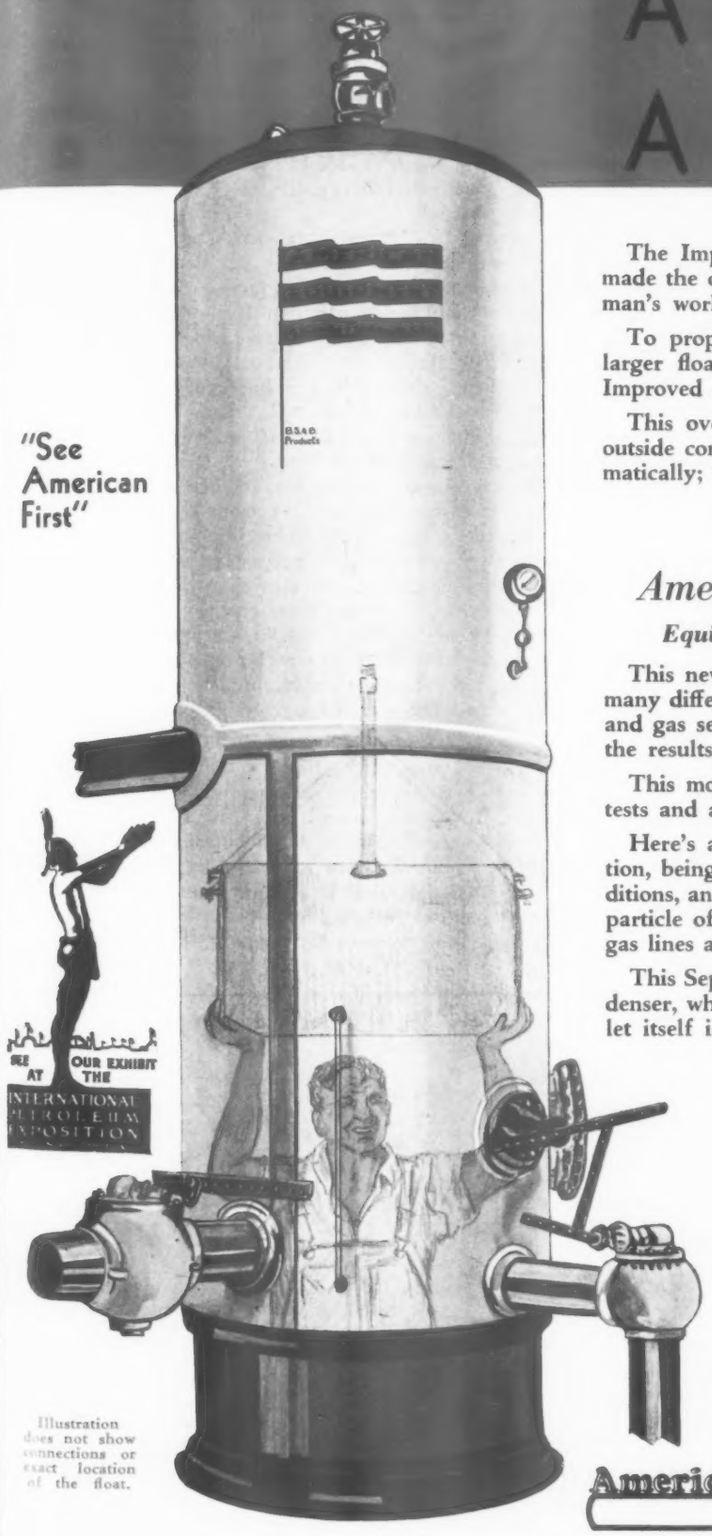

Illustration does not show connections or exact location of the float.

The Improved AMERICAN Oil and Gas Separator has made the outside float obsolete! Why employ a boy to do a man's work?

To properly function and to allow for great capacity a larger float was designed by the Engineers who built the Improved AMERICAN Oil and Gas Separator.

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Here's a Separator that can handle an enormous production, being adjustable to various volumes, pressures and conditions, and in every case *insures 100% dry gas.* Each minute particle of oil is stripped from the gas. Gas is delivered to gas lines as they want to buy it—DRY!

This Separator is equipped with the B. S. & B. Spray Condenser, which strips every trace of oil from the gas. The Inlet itself is on the inside, the flow coming in ***at a tangent,*** saving wear and tear and producing a greater centrifugal effect. This Separator takes full advantage of centrifugal force, velocity and gravity!

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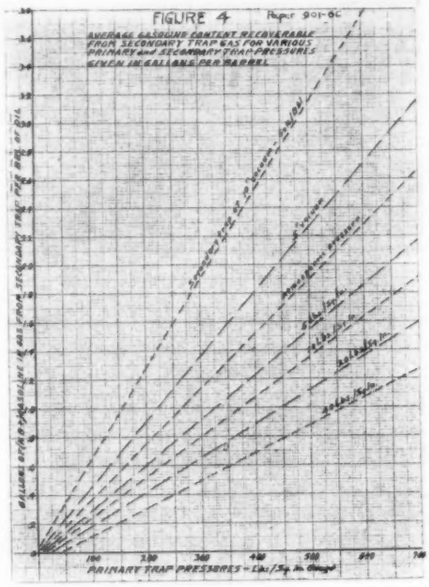


FIGURE 4
Paper 901-GC
AVERAGE GASOLINE CONTENT RECOVERABLE FROM SECONDARY TRAP GAS FOR VARIOUS PRIMARY and SECONDARY TRAP PRESSURES GIVEN IN GALLONS PER BARREL
PRIMARY TRAP PRESSURES

FIGURE 4

the field tanks, when a few inches of vacuum is pulled on the elevated separator.

All of the production goes through the high pressure separators where the primary separation is made. The oil carrying dissolved and entrained gas then goes to the elevated secondary separator where the final separation is made. From data already secured it is possible to predict with rough accuracy the gas volumes and gasoline contents to be expected for each operation. Figure 1 shows a typical series hookup. Figure 2 shows some data on dissolved and entrained gas, and Figure 3 is an average gasoline content curve for the high pressure separator. All of the curves made up have approximately this slope or shape, so that given one or two points fairly reasonable preliminary data can be secured by constructing parallel curves.

The first economy is in the cost of the separators to properly handle the production. Assume a well making 8000 barrels of oil and 25,000,000 cubic feet of gas. Low pressure separators to handle this gas production properly at atmospheric pressure would probably have an installed cost of $8000 to $10,000 or more, while it could be efficiently handled by one high pressure and one elevated low pressure separator at an installed cost of about $5000. On a number of big wells this item of cost runs up to a considerable savings figure.

However, the greatest saving, immediately apparent, is effected in the installation costs of compressor plants necessary to handle the very large volume of gas under the low pressure method of operation, bearing in mind that unless the low pressure method of separation is used, relatively large losses are incurred, due to the loss from the tanks of gas very rich in gasoline vapors.

Assume that this separation is made with separator pressures of 100 pounds, neither high or low. An examination of Figure 2 indicates that there would be approximately 80 cubic feet of gas dissolved and entrained, per barrel, at this pressure, which would make a total of about 600,000 cubic feet of gas per day lost from the field storage tanks. Now, Figure 4 indicates that, when 100 pounds is held on the primary trap, we can expect to recover about 0.4 gallons of normal butane plus gasoline per barrel, or for 8000 barrels, about 3200 gallons of gasoline lost per day from the tanks, the gas having a gasoline content of five or six gallons per 1000 cubic feet. With a normal natural gasoline market this means a monetary loss of about $125.00 per day. This is quite a sizeable loss, which can be greatly reduced by the use of series separation with atmospheric pressure or loss on the elevated unit.

Figure 5 illustrates the effect of pressures on the gasoline content of the gas recovered from low pressure secondary separators and indicates the desirability of holding vacuum on the separator. Figure 4 gives more complete data covering various primary and secondary separator pressures. Slide No. 6 (Table 1) shows some actual results secured in gasoline recovery by lowering the secondary separator pressures.

Now assume, for example, a 100,000-gallon absorption plant to treat 50,000,000 cubic feet per day of two-gallon gas. To compress 50,000,000 cubic feet per day from a negative pressure of 10 inches mercury to 30 pounds per square inch above atmospheric, would require about 93 horsepower per 1,000,000, or about 4650 total horsepower, which at an installed cost of about $90 per horsepower would total about $400,000 for the compressor plant. The 30 pounds absorption might cost about $450,000, making a total investment required about $850,000.

Now, let us compare figures for another extreme case in which only the low pressure gas from the elevated secondary separator is treated. The primary separation is made at 500 pounds and the secondary separation at 10 inches vacuum. Figure 3 indicates a gasoline content for the 500-pound gas of about 0.6 gallons per 1000. Use this gas for direct repressuring or gas lift purposes, in the local or adjacent fields, or sell it at a high pressure gas, premium price, or yet, blow it to the air. Cooling and scrubbing will remove a fairly large percentage of its gasoline content.

Eight Gallons per 1000

Figure 4 indicates a gasoline content for the 10-inch vacuum gas of about three gallons per barrel, and, for comparison, 1.9 gallons per barrel for atmospheric gas. Figure 2 indicates a dissolved and entrained gas content of about 400 cubic feet per barrel. Then handling 8000 barrels through the 10-inch vacuum separator we have about 24,000 gallons of gasoline per day carried in about 3,000,000 cubic feet of gas, having a gasoline content of about eight gallons per 1000. For comparison, the atmos-

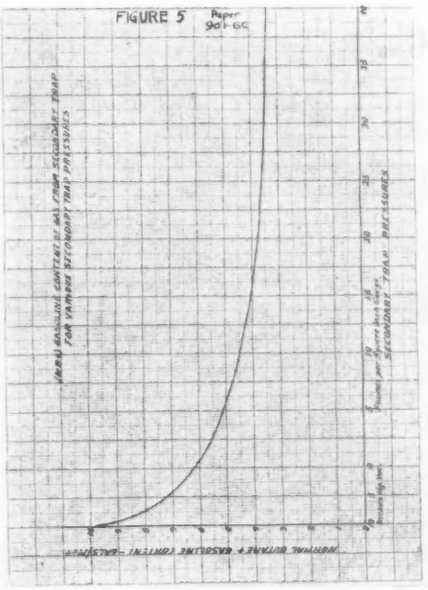
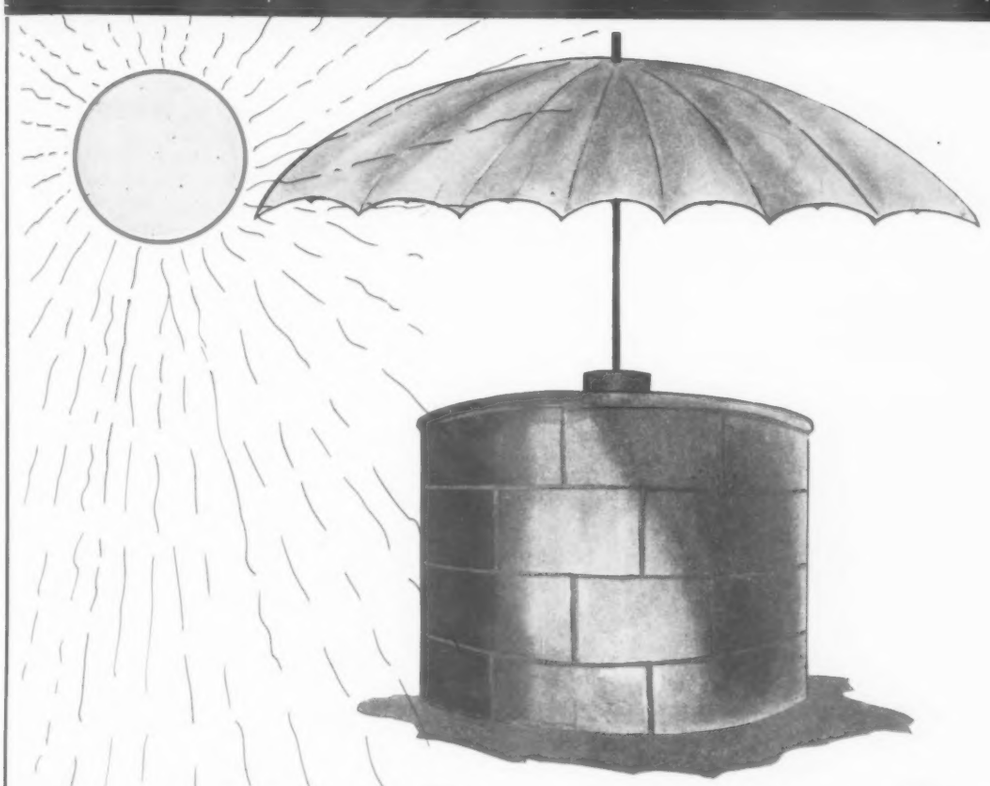


FIGURE 5



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The hot sun plays havoc on crude. Must your tank be shaded against its heat? Have you realized what happens to your crude when the sun shines? It is like a fire under a still, and its heat expands the crude, causing the lighter fractions to escape—unless retained within the tank.

The loss of those volatile vapors is double—the actual evaporation and the lower gravity.

Is your tank able to withstand the extra amount of pressure generated by the expansion of the crude? Then when the sun goes down and the tank cools and contracts, there is created a vacuum. Is your tank able to cope with that also?

The B. S. & B. PERFECTION Vapor Pressure Tanks are built to withstand pressure and vacuum. They need no parasol or covering to shade them from the effects of the sunshine.

"Service on the Dot"

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Consider the B. S. & B. Safety Steel WALKWAYS and STAIRWAYS

Practical, portable, fireproof.

The most economical way to build Walkways and Stairways. As simple to erect as building toys. Adjustable to any size. Low initial cost! No upkeep.

Specify B. S. & B. Safety Walkways on your next installation!

Because of the construction of these tanks, which are more than a mere shell, and also since they are equipped with the B. S. & B. Thief Hole Pressure Vacuum Valve, which automatically operates at 16 ounces pressure, or 2 ounces vacuum, the tanks are protected as they protect the crude.

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The tanks that defy corrosion. Not affected by hydrogen sulphide gases. Made of redwood; impervious to action of the fumes. Every metal part on inside, to give them rigidity and strength, insulated with wood.

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pheric gas has a gasoline content of 15,000 gallons, or its value is about five gallons per 1000.

Under the first condition it will require but 12,500,000 cubic feet of 10-inch vacuum gas to secure 100,000 gallons of gasoline per day. This would require an oil production of about 33,000 barrels per day.

To compress 12,500,000 cubic feet per day from an intake of 20-inch vacuum to 30 pounds would require about 150 B.H.P. per 1,000,000 or a total of say 2000 B.H.P., 10 200 horsepower units, at an installed cost of about $200,000.

For the five-gallon atmospheric gas it would require 20-000,000 cubic feet per day to secure 100,000,000 gallons production. This would necessitate a 54,000-barrel per day oil production, meaning a number of more wells and more separator and gas line installations. To compress 20,000,000 cubic feet per day from 10 inches vacuum intake to 30 pounds would require about 93 B.H.P. per 1,000,000 or 1860 H.P. total, say possibly nine 200 horsepower units at an installed cost of about $180,000. The installation costs are apparently just about a stand off with this consideration in favor of the carrying of 10 inches vacuum on the separator, that by the stripping of the additional gasoline from the oil the factor of vapor loss from the field and tank farm storage is entirely eliminated, thereby eliminating, also, the large costs of installation and maintenance of tank vapor recovery systems.

It thus appears that the direct savings which might be effected for the case taken are in the neighborhood of $200,000, without considering the very large savings and economies that can be realized when full advantage is taken of the horsepower that is inherent to the high pressure gas, as noted before. There is no question but that economies running into very large sums can be effected for large scale operations covering a period of a few years.

A direct comparison of the installation costs of two 100,000 gallon plants, one operating at 30 pounds and the other at 450 pounds would show a cost for the low pressure plant of about $450,000, as above, as against a cost of about $300,000 for the 450-pound plant.

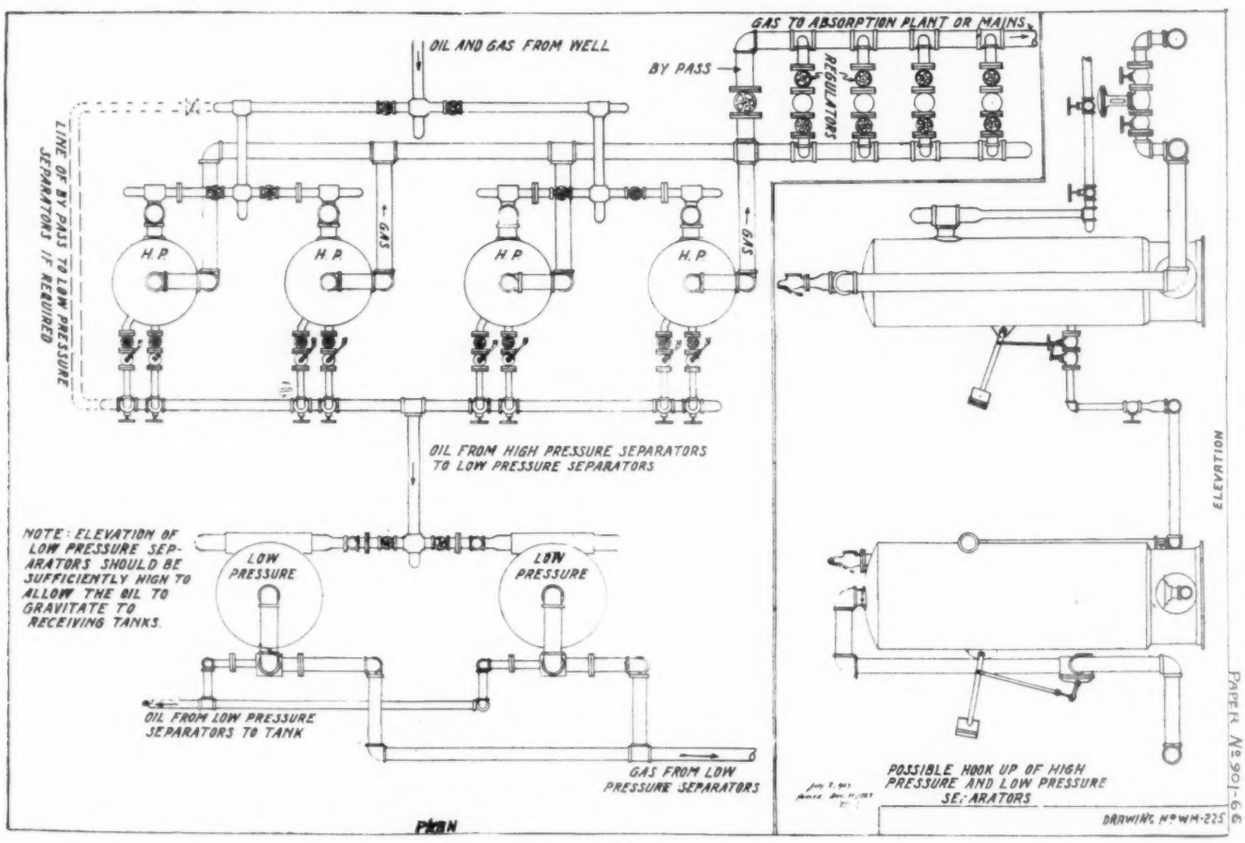
It seems that the logical installation is a combination low and high pressure plant. This would have considerable flexibility and would make possible the realization of marked economies over a long period of production operations.

Plant capacity for flush production is not usually justifiable. During the flush a large volume of gasoline bearing gas is, of necessity, untreated. With a combination plant of 100,000 gallons rating, under these conditions, the low pressure elevated traps would be carried at 30 to 40 pounds, eliminating for a few months the cash outlay for compressor plants. The overloaded plant might, well, extract 175,000 gallons per day with inefficient stripping of the gas.

Later, as natural decline in production has taken place, all of the gas may be treated efficiently. The bulk of the gas, say 60 to 80,000,000 cubic feet may be treated at a lowered high pressure. A vacuum may be held on the elevated secondary separator with compressor installation required for but four or five million cubic feet of very rich gas.

Table 1
Effect of Decreasing Secondary Trap Pressures On Natural Gasoline Recovery

Well No.	Trap Pressure Pounds	Gas Production Mcf/24 hrs.	Yield per Mcf.	Total Gasoline Production	Total Increase in Gasoline Production
1	38	919	3.44	3165	
1	16	1253	4.99	6250	3085
2	43	1076	3.51	3779	
2	16	1578	6.23	9826	6047
3	38	876	3.77	3303	
3	8	1157	5.79	6701	3398
4	38	1527	3.21	4900	
4	14	1977	4.70	9296	4396
5	30	600	4.60	2760	
5	12	800	6.00	4800	2040


GAS TO ABSORPTION PLANT OR MAINS
OIL AND GAS FROM WELL
BY PASS
REGULATORS
LINE OF BY PASS TO LOW PRESSURE SEPARATORS IF REQUIRED
H.P.
H.P.
H.P.
H.P.
GAS
GAS
OIL FROM HIGH PRESSURE SEPARATORS TO LOW PRESSURE SEPARATORS
NOTE: ELEVATION OF LOW PRESSURE SEPARATORS SHOULD BE SUFFICIENTLY HIGH TO ALLOW THE OIL TO GRAVITATE TO RECEIVING TANKS.
LOW PRESSURE
LOW PRESSURE
OIL FROM LOW PRESSURE SEPARATORS TO TANK
GAS FROM LOW PRESSURE SEPARATORS
PLAN
ELEVATION
POSSIBLE HOOK UP OF HIGH PRESSURE AND LOW PRESSURE SEPARATORS
DRAWING No. WM-225
PAPER No. 901-66

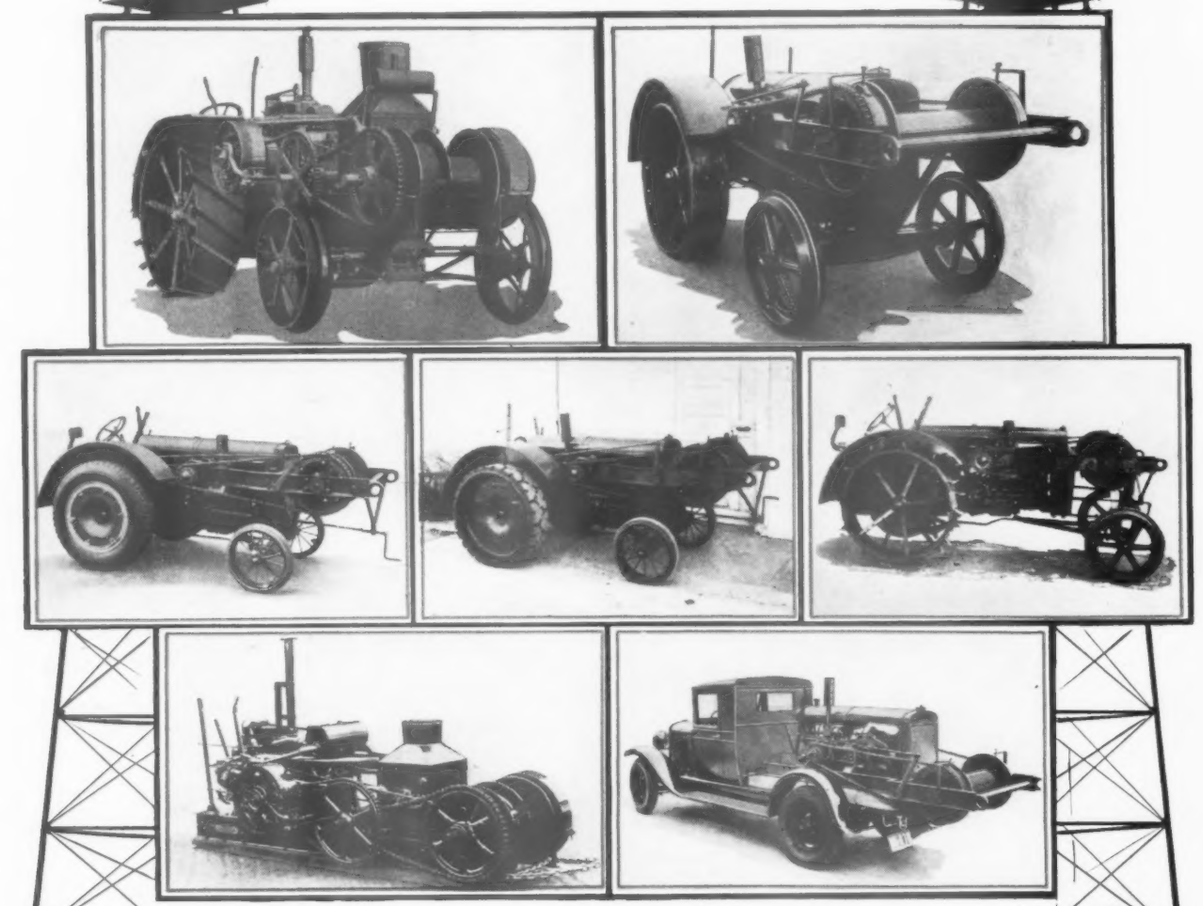
THE BIG ATTRACTION AT THE BIG SHOW

RUMELY OILPULL TRACTOR

LOT B, PENNSYLVANIA AVENUE

(Northeast corner of the Grounds)

RUMELY DOALL Industrial Winch TRACTOR



OilPull Stationary

DoAll Stationary, Truck Mounted

Regardless of what your pulling problems are . . . . We have equipment that will do the job.

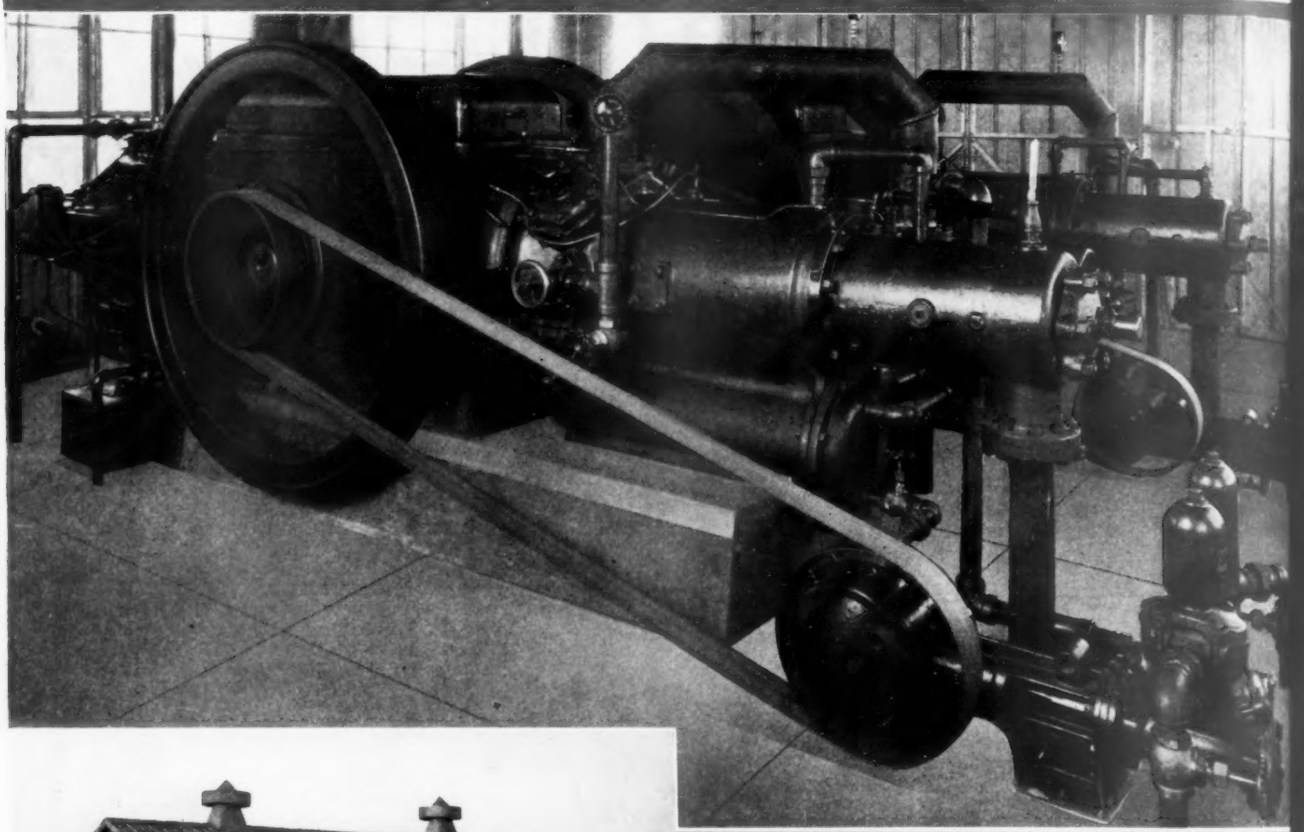
~Send all inquiries and orders to ~

FRED E. COOPER

Special Rumely Representative and Developer of Oil Field Machinery

18 S. MADISON TULSA, OKLA.

A ONE-MAN COMPR



Above: Booster station of Mid East Gas Company, near Perryton, Ohio, showing compressor end of two Cooper-Bessemer Type-16 gas engines direct driving single-acting two-stage compressors with built-in intercoolers. Capacity of each unit 460,000 cu. ft. free gas per day.

Left: Exterior of same station. There is sufficient space in this building to house three Type-16 compressor units and a work bench.

COOPER BESSEMER CB CORP

YOU'RE ALWAYS SAFE IN CHOOSING A COOPER-BESSEMER

RESSOR STATION USING COOPER-BESSEMER TYPE-16's

THE two Type-16 compressor units shown in the station illustrated are equipped for automatic service. There is only one operator on 24 hour a day duty. During the day he spends only two or three hours in the station. At night he goes to bed with complete confidence that his engines will stay right on the job.

Semi-automatic operation is made possible with automatic pressure switches, which protect the engine against damage in case of an accidental shortage of cooling water or lubricating oil, and a cooling water temperature switch which stops the engine in case of a rise to a harmful temperature.

IMPORTANT FEATURES OF TYPE-16

1. Easily convertible from oil to gas fuel.
2. Self-contained, compact and portable.
3. Timken main roller bearings.
4. Die-forged crank shaft.
5. 50-60 B. H. P.; four cycle; simplified design.

THE COOPER-BESSEMER CORPORATION

MOUNT VERNON, OHIO GROVE CITY, PA.

Branch offices in all principal oil and gas fields

FOR PERFECT PERFORMANCE

"Clang!" The sharp clap of the bell sends the fighters bounding lightly to the center of the ring and into the white glare of the calciums which highlight the ripple and slide of iron muscles. A roar of approval rolls up over the billowing tiers of spectators as the fighters clash in a whirlwind of lightning feints and shifts, of stinging jabs and jolting blows. The thud and smack of leather against tight, pink flesh is music to the fight fans' ears. Two fighting machines tuned to the minute, boring in—socking, blocking—absorbing and inflicting terrific punishment in a flashing exchange of numbing blows—that's a sight that sends the red blood of he men racing, holding them awed and enthralled. They'll tell you in enthusiastically profane admiration that "There IS one, sweet battle! Boy, it's a wow! A PERFECT performance!"

Do you enjoy a good fight—a perfect performance? We'll bet you do.

We know another fighter whose perfect performance will arouse you to a profane jubilance at the way he bores in toe to toe with his antagonist and licks him calmly, swiftly, cleanly. He's known as the American Fish Tail Bit.

The American Fish Tail Bit is a new, better kind of rotary drilling bit that will give you a perfect performance by making more hole on every run, by reducing round trips by 50%, by keeping the pipe in the hole, by reducing labor and expense, by speeding up production. We'll leave it to you if that isn't a perfect performance of a champion!

AMERICAN IRON & MACHINE WORKS CO.
OKLAHOMA CITY, U. S. A.
MANUFACTURERS OF OIL FIELD EQUIPMENT

WORLD PETROLEUM IN REVIEW

Tank wagons serve in lieu of pipe lines to collect oil from outlying wells in German fields

Berlin, Germany.—German oil imports during the first half of 1930 totaled 12,240,000 barrels, an increase of 40 per cent over the 8,714,279 barrels imported during the first six months of 1929.

Maracaibo, Venezuela. — Proposed plans of Venezuela Gulf Oil Company to build a large electrical plant for electrification of all field operations in the Maracaibo Basin are beginning to materialize and work has been started on the project. High lines will be erected in the field with the terminal at Los Morochas. The plant will be ready for operation by the first of April 1931.

Bucharest, Roumania.—Commerce reports outline the development and organization of the Roumanian oil industry and the progress of drilling activities before and after the war. More than 98 per cent of the total capital invested in the oil industry of this country belongs to joint-stock companies. At the beginning of 1929, 146 such companies were engaged in the production, manufacture and commercialization of oil products with a total nominal paid-in capital of about $70,800,000. The most important company so engaged is British Phoenix Oil and Transport Company which is capitalized at $18,500,000.

Paris, France.—Three French companies, Raffineries du Nord, Union des Mines, and Petrofina have entered into a merger and plan construction of an oil refinery with an annual capacity of 2,100,000 barrels of crude which may be increased to 3,500,000 barrels. Some of the crude for the new plant may come from French companies in Roumania but probably a share of it will be imported from other sources.

Mexico City, Mexico.—Penn-Mex Fuel Company has brought in its Paso Real well of the Tuxpam River, state of Vera Cruz, with an initial flow of 5000 barrels at a depth of 2460 feet.

Berlin, Germany.—German oil refineries during the first six months of 1930 produced 2,307,137 barrels compared with 1,305,766 barrels and 1,437,450 barrels in the corresponding periods of 1928 and 1929 respectively. Production of gasoline rose 45 per cent during the first half of 1930.

London.—Conflict between British and French interests and international depression in world markets has resulted in further delay of the construction of the proposed Mosul oil fields pipe line by Anglo-Persian Oil Company, Ltd. The line is no nearer completion than it was three years ago.

Lima, Peru.—The revolution in this country has done no harm to the oil fields so far. All foreign interests have little to fear from the uprising so far as damage to their property is concerned.

Mexico City, Mexico. — Preliminary estimates by the Ministry of Industry, Commerce and Labor give August petroleum production export and import taxes at $400,000 against $470,000 in July.

Athens, Greece.—Eight barges belonging to Standard Oil Company caught fire and blew up on September 9. Eight persons were killed and 20 were injured in the blast.

Bagdad, Iraq.—Iraq oil pipe line from Iraq fields will start at a point near this city and extend over 400 miles, running through Iraq across Transjordan and then through Palestine to Haifa. The survey will start as soon as cold weather sets in.

Chung-King, China.—Lack of capital and refining facilities have kept this country from utilizing any of the vast quantities of crude oil known to be present in the western part of this province. Reports recently issued stated discovery of new oil field in Pleng-Chi but this oil occurrence has been known for a long time past and has not been developed because no effective use can be made of these discoveries.

L. F. Adamiak
Petroleum engineer, Polish Bureau of Mines

Sydney, Australia.—Search for oil in New Guinea is a national affair, according to a statement of G. A. V. Stanley of Anglo-Persian Oil Company, made before the Millions Club recently in this city. Geologists were confident of the existence of oil in New Guinea since the island belonged to that belt of young mountain chains which stretched around the Pacific, through the East Indies, the New Hebrides, the Solomons, to New Zealand. Existence of great oil fields through the East Indies gives some foundation to the popular belief that oil should also be in existence in New Zealand since the folding and

WORLD PETROLEUM IN REVIEW
(CONTINUED)

crumpling of the rocks formed conditions necessary for the accumulation of oil all along the mountain chain.

La Brea, Trinidad.—A steady increase in production for the last few years has won for Trinidad the distinction of producing more oil than any other part of the British Empire. In 1928 British India produced 8,300,000 barrels as compared with 7,684,450 barrels produced in Trinidad, but for 1929 the order was reversed and Trinidad produced 8,715,652 barrels while British India produced only 8,286,000 barrels. As it is believed that the peak of production in British India has been reached while the production of Trinidad is increasing steadily, it is to be expected that in a few years the production from this country will far exceed that of any other part of the Empire.

Wellington, New Zealand.—Directors of Taranaki Oil Fields, N. L., have decided to test the Waitangi structure, which is about 24 miles inland from Gisborne. Rights over this area are held by two subsidiaries of Taranaki Company.

Numerous seepages of oil, accompanied by gas occur on Waitangi Hill and give every evidence of confirming geologists reports that the territory needs only further development to make a real producing area of it. A well sunk by another company to 1910 feet produced only six barrels of oil and had to be abandoned because of lack of financial support. Other wells drilled in the section have not been drilled sufficiently deep to test the real structure but have given such satisfactory showings that the company is confident of its new venture proving a great success.

Praha, Czecho-Slovakia.—Increases of over 100 per cent in oil production for the first six months of this year with the corresponding period of last year are due principally to the location of a new field. Sand of this field is practically identical with that of the old Gbely field which has been the leader in oil production of this country. Width of the field is about 1300 feet while its length is approximately 2900 feet. The oil sand lies at a depth of 540 feet.

Moscow, Russia.—In the recently opened oil field in the Ural district, test well No. 8 in Tschussovsky-Gorodki, after shutting off water began flowing oil. The flow of oil, which reached a height of over 340 feet, will probably total a daily production of 160 barrels according to estimates by oil experts.

Brunei, Borneo.—Application for a concession to develop oil in this country has been made by the Standard Oil Company of California to The Netherlands government. It is expected that the concession will be granted as business men of Amsterdam will welcome American capital for exploiting oil prospects in the Dutch East Indies.

Important Conference Features Annual Safety Congress Meet

PITTSBURGH.—The Nineteenth Annual Safety Congress and Exposition to be held in Pittsburgh from September 29 to October 3 will have as one of its main features, the most important conference of the year for considering the problems of accident prevention in the petroleum industry of the United States.

The history of the national cooperative accident prevention program of the petroleum industry dates back to the organization of the petroleum section of the National Safety Council in 1922. As a result of the organization of this section practically all of the companies of the American petroleum industry have cooperated to make one of the best records among the list of great industries in distributing and assembling specific accident prevention information.

Purposes of the congress will be manifest in the numerous displays of safety equipment, exhibitions by trained safety groups, discussions of industrial health, traffic safety lectures, classes for instruction in general safety measures and scores of other special features that will be combined to attract the largest attendance of delegates and professional men ever assembled for that special purpose. Another of the chief purposes will be the scientific consideration of important safety problems with reports by committees who have been inevstigating situations relating to these problems.

The petroleum section safety contests conducted during the last three years have been a great aid in establishing the remarkable accomplishments in accident prevention in the petroleum industry. Over 200,000 petroleum workers participated in the 1930 safety contests to make a reduction of approximately 25 per cent in the accident frequency rates as compared with 1929 frequency rates.

The petroleum section congress program will include three one-half day sessions and an additional luncheon session. The September 30 session will be devoted to a discussion of the accident prevention problems of the producing department of the petroleum industry. Discussion of these problems will include talks by: C. W. Smith, safety director, Standard Oil Company, (Indiana), on "Our Goal;" A. W. Vreeland, safety director, Lone Star Gas Company, Dallas, on "Solving the Pipe Line 'Casual' Problem;" Barton Carter, safety engineer, southern district, producing department, Standard Oil Company of California on "Preventing Drilling Accidents;" and W. C. Lynch, manager personnel department, General Petroleum Corporation, on "Preventing and Fighting Oil Field Fires."

The October 1 session will be featured by an address on "The Executive's Opportunity in Accident Prevention," by E. M. Lyons, president, National Petroleum Association. "Safety Operation of Cracking Equipment" will be discussed by E. M. Matson, safety engineer, Universal Oil Products Company. Presentation of the 1930 petroleum section safety contest trophy to the respective group winners by C. E. Pettibone, president, National Safety Council, will be one of the main features of that day's luncheon session.

The October 2 morning session will include addresses by authorities on some of the most important accident prevention problems, such as "Precautions in Fueling Aircraft," "Safety at the Lift and Pits" and "Preventing Fires and Accidents in Bulk Marketing Plants."

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Continuation of Curtailment Has Firming Effect

IN view of the upturn of the production curve depicted on this page representing an increase of only 2050 barrels daily average, it might be said that the downward trend continues. The same is true of runs to stills and gasoline in storage. The changes are small, but downward, which is encouraging.

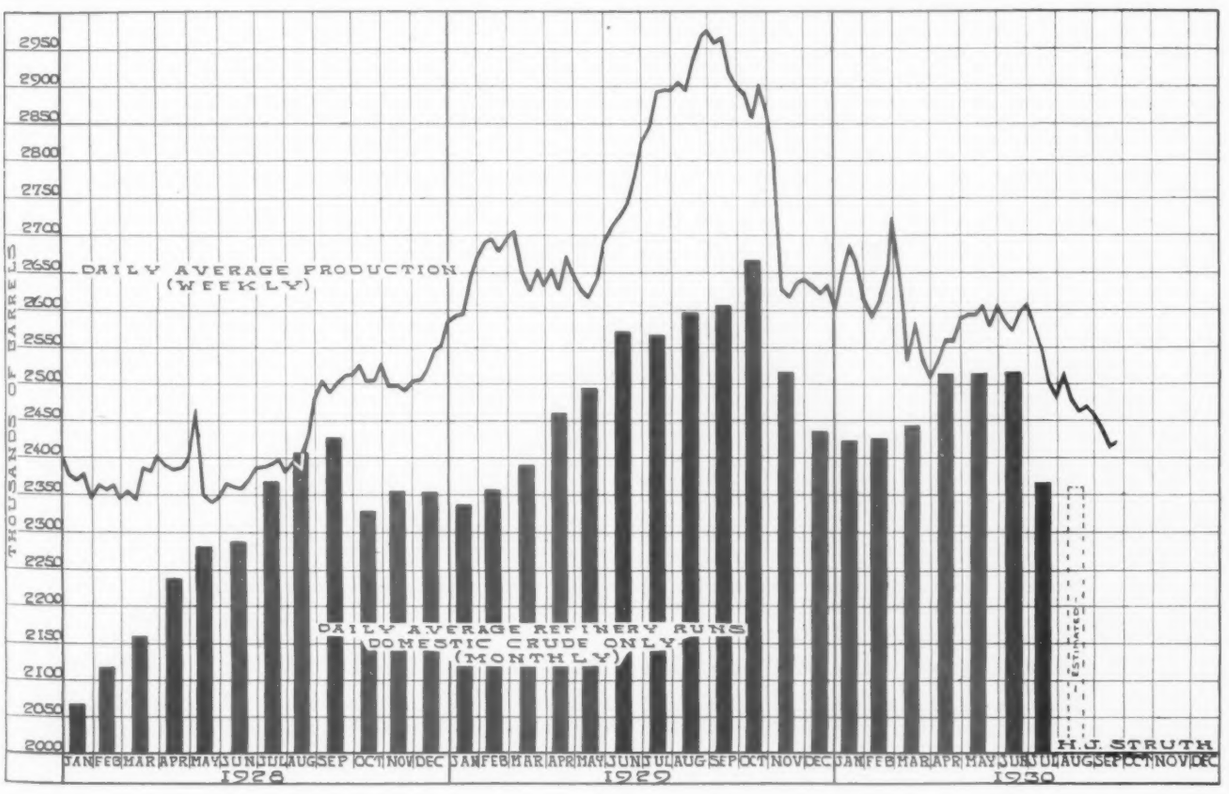
As reported to the American Petroleum Institute, refinery runs of crude to stills for the week ending September 20, totaled 17,086,000 barrels, and the week previous 17,124,000 barrels.

Gasoline stocks for the two weeks are reported at 37,260,000 barrels and 37,832,000 barrels, the first figure being the latest report.

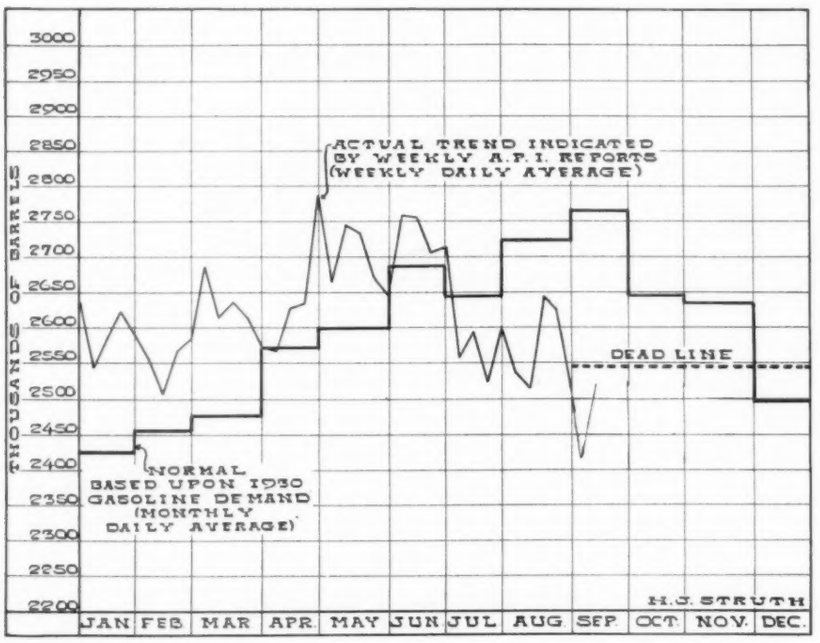
Because of better production conditions being brought about by curtailment measures in both producing and refining, and uncertainty attending such agreements bringing about the curtailment, conditions are and will continue uncertain. There is small possibility of strength in prices, although demand is reported favorably from some sections. However, the only crude price changes, in the East, were slight increases.

While instances are still too numerous where both producers and refineries are offering oil at prices below official market values, it is noted that there is a tendency on the part of the majority to maintain a better degree of stability in the price structure. Particularly in the case of the refined oil market is it noted that wholesale prices are hold-

DOMESTIC PRODUCTION AND REFINERY RUNS



RUNS OF CRUDE OIL TO STILLS



ing fairly firm and in some instances quotations are being made at fractional gains above recent market prices. This would seem to indicate that conditions are not quite as bad as they were even a few weeks ago, and lends a slightly more cheerful aspect to the general situation.

Stocks of both crude and refined oils in the Mid-Continent area have continued to show the effect of withdrawals from storage, as a direct result of curtailment and proration of both crude production and refinery runs. While no official figures are available on present stocks, it is well known that marked inroads have been made upon both crude and gasoline storage. Nevertheless, it is conceded that there is room for further improvement and only the continuation of existing curtailment measures will completely cure the ills of the industry.

Proration bodies throughout practically all of Texas and eastern New Mexico have already demonstrated their capabilities in effecting necessary curtailment to comply with the railroad commissions and operating committees wishes. Results are beginning to be reflected in the official production figures of the various districts.

Producers in a number of fields, particularly in the North Texas and Panhandle areas, are complaining because of the inequalities that exist in the allocation of pipe line runs. It has been suggested that a solution to this problem lies in the pooling of purchases by the pipe line companies. As it is now, many producers are having considerable difficulty in consistently disposing of their allowable output, while others have succeeded in unloading somewhat more than their normal share of daily runs. This situation is causing no little trouble in North Texas and the Panhandle and is one of the main reasons for continued opposition of some operators to existing proration schedules.

The technical condition of the refined oil market can be said to be somewhat improved, particularly in North Texas. Improved demand has been realized there for both motor grades and natural gasoline, with the result that prices have remained firm. The demand for kerosene continues to lag, however, with prices unchanged. Distillates continue to reflect improved seasonal demand at this time, although the volume being shipped is not heavy. It is noted, however, that the demand for industrial and domestic distillates is showing consistent, moderate gains each week, with the outlook for the immediate future decidedly encouraging. Heavy fuel oil buyers are becoming less plentiful

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING SEPTEMBER 13, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks	Gas & Fuel Oil Stocks
East Coast	608,700	608,700	100.0	3,313,000	473,300	77.8	5,428,000	11,192,000
Appalachian	128,100	117,600	91.8	589,000	84,100	71.5	1,140,000	1,105,000
Indiana, Illinois, Kentucky	382,500	381,000	99.6	2,098,000	299,700	78.7	5,635,000	4,460,000
Oklahoma, Kansas, Missouri	462,200	412,700	89.3	1,887,000	269,600	65.3	2,553,000	4,828,000
Texas	788,000	712,700	90.4	3,994,000	570,600	80.1	5,674,000	10,662,000
Louisiana-Arkansas	270,600	262,000	96.8	1,088,000	155,400	59.3	1,308,000	2,006,000
Rocky Mountain	148,900	139,300	93.6	391,000	55,900	40.1	1,889,000	1,203,000
California	897,400	891,400	99.3	3,764,000	537,700	60.3	14,205,000	105,419,000
Total Week September 13	3,686,400	3,525,400	95.6	17,124,000	2,446,300	69.4	37,832,000	140,875,000
Total Week September 6	3,686,400	3,525,400	95.6	16,537,000	2,362,400	67.0	38,573,000	140,330,000
The Total U. S. Figures for Last Year, Shown Immediately Below, are not Comparable with This Week's Totals because of Difference in Percentage Capacity Reporting								
Total Sept. 14, 1929	3,364,300	3,159,100	93.9	18,476,000	2,639,400	83.5	31,714,000	*142,145,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included above in the Totals of Their Respective Districts.								
Texas Gulf Coast	526,500	526,500	100.0	3,073,000	439,000	83.4	4,474,000	7,866,000
Louisiana Gulf Coast	147,500	147,500	100.0	759,000	108,400	73.5	1,003,000	1,274,000

*Final Revised.

and this seems to reflect the growing availability of natural gas in the large industrial markets of the North and Middle West.

Investigate Oklahoma Demand

Pending a decision on the Julian case before the Oklahoma Supreme Court, activities of the proration committee of the Mid-Continent Oil & Gas Association are being held to an investigation of market demand for Oklahoma crude oil, as well as methods to bring output within that demand. Every indication is that the committee will offer a program, which will require a further reduction in Oklahoma production.

Oklahoma City producers have presented such a strong case before the committee that preliminary steps have been made to so adjust production that a higher percentage of potential can be recommended for Oklahoma City.

But this sort of recommendation is meeting with stubborn opposition from several quarters. There have been reports, none official, to the effect that consideration is being given to a program which would bring proration to the settled production of the state. Opposition to this, however, is certain to be obstinate, as several of the major companies are known to be opposed to such a move.

Talk of price reduction runs through every consideration of the crude oil situation in Oklahoma. Oklahoma City producers are set in their demand for increased output. Elsewhere there is opposition to any change for other fields. With the market demand certainly no greater than in the last quarter, such a difference of opinion can not be met. Either Oklahoma City must be content with its old percentage, or other fields must take further reduction.

In the event neither side will give ground, the proration program will hit a snag, which would indicate a reduction in the posted price.

Sinclair Oil & Gas Company last week ordered pipe for a 12-inch line from the Oklahoma City field to its Coffeyville, Kansas, refinery. This company is building 22 storage tanks in the Oklahoma City field. These facilities are considered as being prepared for such an event as the releasing of additional quantities of Oklahoma City oil.

Construction of this line followed ratification by Sinclair Oil and Gas Company stockholders of the sale of its interests in Sinclair Pipe Line Company and Sinclair Crude Oil Purchasing Company to Standard Oil Company (Indiana). The line will be operated under the Texas Sinclair Pipe Line Company, a Sinclair subsidiary.

When the line was announced, rumors began to fly to the effect that the Sinclair-Prairie merger had been dropped. These did not last long, however, as a statement from W. S. Fitzpatrick, chairman of the board of Prairie Oil and Gas Company, who said he had not heard of negotiations being dropped.

Another pipe line project, brought into consideration but not verified, is that of Ohio Oil Company from the Yates area of West Texas to Glen Pool, Oklahoma. United Producers Pipe Line Company, bought by Ohio Oil Company in its purchase of Transcontinental Oil Company, is credited with this project.

Such a pipe line came into consideration last summer, when the Ajax line of Standard Oil Company (New Jersey) was announced. The Ajax line starts at Glen Pool and runs eastward to Alton, Illinois. By building from Pecos

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 3rd Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending Sept. 20, 1930	Excess
Arkansas	62,431	62,431	53,650	—8,781
California	664,149	594,000	613,600	19,600
Kansas	120,222	105,554	117,300	11,746
Louisiana	60,116	58,749	67,250	8,501
Oklahoma	669,115	550,000	563,600	13,600
Texas	839,361	775,000*	772,250	—2,750
Balance of U. S.	230,000	230,000	234,150	4,150
Total	2,645,394	2,368,607	2,421,800	53,193

*Limit set by R. R. Commission beginning August 27.

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Week Ended September 13		Week Ended September 6
AT ATLANTIC COAST PORTS—			
Baltimore	298,000		231,000
Boston	96,000		66,000
New York	812,000	"a"	1,097,000
Philadelphia	153,000		412,000
Others	184,000		150,000
Total	1,543,000		1,956,000
Daily Average	220,429		279,428
AT GULF COAST PORTS—			
Galveston District	65,000		65,000
New Orleans & Baton Rouge	32,000		30,000
Port Arthur & Sabine District	.....		.....
Tampa	35,000		39,000
Total	132,000		134,000
Daily Average	18,857		19,143
AT ALL UNITED STATES PORTS—			
Total	1,675,000		2,090,000
Daily Average	239,286		298,571
Daily Avg. Four Wks. Ended	284,357		293,786
Distribution of Total Imports is as Follows:			
Crude	853,000		1,481,000
Gasoline	582,000		243,000
Kerosene	35,000		.....
Fuel Oil	205,000	"a"	366,000
Total	1,675,000		2,090,000

"a" Revised.

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Week Ended September 13	Week Ended September 6
AT ATLANTIC COAST PORTS—		
Baltimore	81,000	.....
Boston	....	55,000
New York	154,000	288,000
Philadelphia	96,000	308,000
Others	37,000	50,000
Total	368,000	701,000
Daily Average	52,571	100,143
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC & GULF COAST PORTS—		
Total	368,000	701,000
Daily Average	52,571	100,143
DailyAvg. Four Weeks Ended	74,214	75,321
Distribution of Total California Receipts is as Follows:		
Gasoline	368,000	602,000
Fuel Oil	.....	99,000
Total	368,000	701,000

Weekly Comparisons of Permits Granted for New Wells

State—	Week Ending September 20	Previous week	This week 1929	Total this month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	3	9	..	13	7	79	116	159
California	31	20	17	69	34	641	938	1,231
Louisiana	14	10	17	40	55	755	630	903
Kansas	13	12	12	43	59	763	817	1,079
Oklahoma	36	40	88	107	221	2,303	2,549	3,578
Texas	125	87	168	358	481	5,782	6,425	8,697
Total	222	178	302	630	857	10,323	11,475	15,647

to Glen Pool, Ohio Oil Company could move its West Texas oil through to the eastern seaboard through its own lines and those owned by Standard Oil Company of New Jersey.

California

The increased spread between crude and gasoline prices has had little effect upon either branch of the market in California. Gasoline shipments through the Panama Canal have shown little change but they will be affected by weaker gasoline prices along the Atlantic seaboard, or by business conditions.

California stocks will be reduced little during the winter months unless production of both crude and refined products is smaller than expected at this time of the year. The Playa del Rey field probably is not the menace it appeared two months ago, although crude from this field is going here and there to disturb both the crude and gasoline market. Success of any kind of curtailment agreement is very doubtful in this townlot district. Most of the smaller operators claim to favor curtailment but balk at placing their signatures on an agreement.

Operators took the small reduction in crude prices made recently by Standard Oil Company of California with better grace than expected, due to the fact that a much larger cut was possible. There is some discontent at the higher gasoline prices but it will require several weeks to determine the extent of dissatisfaction.

Hearing of Contempt Citations Again Postponed to October 6

Oklahoma City.—The Oklahoma Corporation Commission has reset the hearing of contempt citations, scheduled for September 23, for October 6. The second day in the hearing of 61 oil companies and individuals on charges of violation of proration orders, chiefly in the Oklahoma City field, was made in order to await ruling of the courts as to the legality of the statute under which the corporation commission issues and enforces proration orders in oil fields.

The hearings were scheduled for earlier in the month but were postponed until September 23 in the hope that the Oklahoma Supreme Court would give its decision in the case of C. C. Julian Oil & Royalty Company against the corporation commission. With the filing of a suit in the Federal District Court by Champlin Refining Company, which will be heard September 29, the corporation commission has reset its hearing for the purpose of having court opinions given before further progress is taken by the commission.

Summarized Review of Field Results

	Completions		Oil Wells		Gas Wells		Failures		Initial Prod.	
	This week.	Last week.	This week.	Last week.	This week.	Last week.	This week.	Last week.	This week.	Last week.
Arkansas	3	7	3	..	..	..	..	7	439	...
California	14	18	12	15	..	..	2	3	5,500	33,215
Illinois	2	4	1	3	..	..	1	1	12	87
Indiana	3	9	..	4	2	1	1	4	...	89
Kansas	20	23	1	13	10	1	9	9	55	6,251
Kentucky	13	16	5	14	4	..	4	2	100	299
Louisiana	32	8	12	2	11	2	9	4	6,065	2,300
Michigan	5	6	5	2	..	2	..	2	1,025	470
Mississippi	2	2	..	..	1	2	1	..	...	...
New Mexico	8	12	8	12	..	..	..	..	42,720	77,221
New York	5	..	5	..	..	..	..	..	14	...
Ohio	32	21	9	4	15	12	8	5	254	91
Oklahoma	51	70	24	51	4	6	23	13	179,968	180,031
Pennsylvania	26	3	23	1	2	2	1	..	74	2
Tennessee	3	..	..	..	..	3	..	..	..	...
Texas	77	101	38	53	7	15	32	33	25,774	12,500
West Virginia	27	12	8	4	17	6	2	2	120	19
Total	320	315	154	178	73	52	93	85	262,120	312,575
Increase this week	5	..	..	..	21	..	8	..	...	...
Decrease this week	..	..	24	..	..	..	..	..	50,455	...

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1929	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
August	728,100	127,950	750,750	153,100	36,300	66,900	126,600	77,900	873,300	2,940,900	91,167,250
September	714,050	128,450	741,200	156,600	37,050	65,300	137,250	78,600	874,850	2,933,350	88,000,650
October	673,600	113,400	714,550	167,050	39,700	64,550	137,400	77,950	876,600	2,864,800	88,809,500
November	640,300	110,050	702,350	171,350	36,750	63,700	135,400	76,550	706,500	2,642,800	79,285,050
December	650,000	111,600	687,850	161,350	38,700	61,850	140,650	76,150	698,200	2,626,350	81,417,000
1930											
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,574,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
Sept. 6	565,000	113,550	625,150	204,200	40,450	53,500	122,850	106,050	606,300	2,437,050	17,059,350
Sept. 13	549,100	118,550	610,450	203,450	39,850	53,550	121,150	109,950	613,700	2,419,750	16,938,250
Sept. 20	563,600	117,300	598,750	200,250	40,500	53,650	121,050	113,100	613,600	2,421,800	16,952,600
Increase	14,500	.....	.....	.....	650	100	.....	3,150	.....	2,050	14,350
Decrease	.....	1,250	11,700	3,200	...	.....	100	.....	100	.....	.....

TEXAS
(Outside Gulf Coast)
PANHANDLE DISTRICT

	Sept. 20	Sept. 13
Carson County	7,150	7,500
Gray County	56,900	58,700
Hutchinson County	17,400	17,800
Wheeler County	500	650
Others	400	400
Total	82,350	85,050

NORTH TEXAS

Archer County	14,050	14,450
Burkburnett	7,850	7,900
Electra	10,450	10,600
Iowa Park-KMA	4,800	5,000
Montague and Cooke Cos.	9,500	9,450
Wilbarger	15,300	18,350
Others	1,900	1,700
Total	63,850	67,450

WEST CENTRAL TEXAS

Brown County	5,500	5,700
Callahan County	3,100	3,150
Coleman County	2,750	2,800
Eastland-Desdemona	5,400	5,450
Jack County	2,350	2,950
Palo Pinto County	450	500
Shackelford County	6,800	6,850
Stephens County	5,300	5,300
Throckmorton County	700	700
Young County	15,500	17,150
Others	1,200	1,400
Total	49,050	51,950

WEST TEXAS

Crane-Upton Counties	33,750	35,200
Crockett County	2,150	2,200
Ector	8,250	7,500
Howard County	22,800	22,250
Jones County	1,350	1,350
Mitchell-Scurry Cos.	2,150	2,200
Pecos County	3,700	3,400
Reagan County	22,300	22,250
Winkler County	63,450	65,600
Yates	101,600	101,700
Others	4,700	4,500
Total	266,200	268,150

EAST CENTRAL TEXAS

Boggy Creek	2,550	7,700
Corsicana-Powell	5,500	5,750
Currie	300	450
Mexia	4,100	4,500
Nigger Creek	200	150
Richland	150	200
Van Zandt	28,200	27,500
Wortham	650	750
Total	41,650	42,000

SOUTHWEST TEXAS

Chapman	10,000	10,950
Dale	300	300
Darst Creek	42,500	42,300
Laredo District	13,550	13,800
Luling	10,000	9,000
Lytton Springs	850	900
Salt Flat	16,500	16,500
Somerset	1,400	1,600
Others	550	500
Total	95,650	95,850
Ttl Tex. (outside Gulf Coast)	598,750	610,450

TEXAS GULF COAST

Barbers Hill	17,450	17,800
Batson	1,150	1,150
Big Creek	3,350	3,500
Blue Ridge	2,100	2,100
Boling	900	1,000
Damon Mound	700	650
Esperson	2,850	3,050
Fannett	700	700
Goose Creek	4,400	4,500
Hankamar	1,700	1,700
Hull	8,600	9,000
Humble	20,900	21,300
North Dayton	1,300	1,100
Orange	2,000	2,300
Orchard	2,200	2,300
Pettus	7,650	8,300
Pierce Junction	9,900	11,950
Port Neches	1,450	1,450
Raccoon Bend	12,000	11,850
Refugio	28,500	29,500
Saratoga	1,150	1,100
Somerville	2,700	1,900
Sour Lake	2,200	2,200
South Liberty	3,400	3,450
Spindle Top	15,300	16,000
Sugar Land	12,400	12,600
West Columbia	4,150	4,200
Others	2,400	2,550
Tctal	173,500	179,200
Texas Total	772,250	789,650

OKLAHOMA

Allen	15,100	15,700
Asher	1,200	1,300
Blackwell	3,000	2,950
Bowlegs	15,700	13,750
Braman	3,250	3,250
Bristow Slick	15,100	15,150
Burbank	15,500	15,500
Carr City	9,100	6,150
Cromwell	7,400	7,450
Cushing	13,500	13,350
Davenport	1,150	1,200
Duncan District	9,150	9,400
Earlsboro	22,850	22,950
East Earlsboro	18,400	17,950
East Little River	12,900	11,300
East Seminole	2,300	2,300
Fox	1,150	1,150
Garber	4,600	4,550
Graham	3,250	3,250
Healton	11,900	11,850
Hewitt	7,000	7,050
Hubbard	1,400	1,450
Konowa	16,150	15,700
Little River	27,300	24,950
Logan County	4,600	4,600
Maud	3,050	3,150
Mission	7,800	7,350
North Okmulgee	10,250	10,250
Oklahoma City	98,850	92,650
Osage (outside Burbank)	25,300	25,300
Papoose	2,600	2,550
Pearson	700	700
St. Louis	24,350	22,900
Sasakwa	5,000	5,400
Scholem Alechem	14,000	14,100
Searight	7,300	7,500
Seminole	15,050	14,350
South Earlsboro	8,950	10,400
South Okmulgee	6,950	6,950
Thomas	650	700
Tonkawa	6,350	6,350
West Asher	6,950	7,250
Wewoka	3,750	3,700
Yale Jennings	7,500	7,750
Others	65,300	65,600
Total	563,600	549,100

CALIFORNIA

Dominguez	9,900	10,000
Elwood-Goleta	41,400	38,500
Huntington Beach	28,500	28,300
Inglewood	17,500	17,500
Kettleman Hills	24,500	22,500
Long Beach	102,500	103,500
Midway-Sunset	62,500	63,500
Santa Fe Springs	104,000	106,000
Seal Beach	18,900	18,700
Ventura Avenue	46,900	46,700
Playa Del Rey	19,000	19,000
Others	138,000	139,500
Total	613,600	613,700

KANSAS

Augusta-Fox Bush	2,650	2,650
Churchill	3,600	3,550
Eldorado-Towanda	13,750	13,750
Florence-Covert	750	750
Greenwood County	18,500	18,900
Oxford	2,600	2,550
Peabody-Ebling	2,400	2,450
Rainbow Bend	1,100	1,050
Russell	3,100	3,200
Sedgwick	23,950	21,450
Voshell	8,900	12,250
Others	36,000	36,000
Total	117,300	118,550

NORTH LOUISIANA

Caddo Heavy	2,700	2,600
Caddo Light	9,200	9,100
Carterville	2,650	2,650
Cotton Valley	1,850	1,850
DeSoto-Red River	3,000	3,100
Haynesville	4,900	4,950
Holly	1,000	1,000
Homer	3,450	3,450
Urania	5,250	5,300
Zwolle	4,800	4,150
Others	1,700	1,700
Total North Louisiana	40,500	39,850

LOUISIANA GULF COAST

Bayou Boullion	250	200
East Hackberry	3,050	2,400
Edgerly	400	400
Evangeline	2,400	2,000
Hackberry	1,000	1,050
Lake Barre	1,050	1,100
Lockport	2,650	2,700
Port Barre	3,800	3,100
Sorrento	100	100
Sulphur Dome	3,300	3,050
Sweetlake	1,150	1,200
Vinton	5,100	4,400
Whitecastle	1,100	1,150
Others	1,400	1,400
Total Louisiana Gulf Coast	26,750	24,250
Louisiana Total	67,250	64,100

ARKANSAS

Champagnolle	3,750	3,750
El Dorado	4,050	4,050
Lisbon	900	900
Nevada	1,050	1,050
Smackover Heavy	36,800	36,700
Smackover Light	5,050	5,050
Stephens	900	900
Others	1,150	1,150
Total	53,650	53,550

MOUNTAIN STATES

Big Muddy	2,000	2,000
Elk Basin	750	950
Grass Creek	2,100	2,050
La Barge	2,100	1,350
Lance Creek	150	150
Lost Soldier	5,300	5,250
Oregon Basin	1,200	2,500
Rock River	2,200	2,200
Salt Creek	28,850	31,500
Others	5,200	5,200
Total	49,750	53,150

MONTANA

Cat Creek	1,100	1,150
Pondera	2,050	2,000
Sunburst	5,850	5,850
Others	50	50
Total	9,050	9,050

COLORADO

Florence	550	400
Fort Collins	1,150	1,150
Moffats (Craig)	1,050	1,150
Others	1,600	1,600
Total	4,350	4,300

NEW MEXICO

Artesia	700	700
Bal. Lea & Eddy Counties	47,200	40,700
Hogback	400	450
Rattlesnake	1,250	1,300
Table Mesa	100	100
Others	300	200
Total	49,950	43,450
Total Mountain States	113,100	109,950

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)	113,000	113,000
Michigan	8,050	8,150
Total Eastern States	121,050	121,150

PRODUCTION SUMMARY

East of Rockies	1,695,100	1,696,100
Total U. S.	2,421,800	2,419,750

Crude Oil Price Quotations

(Revised to September 23, 1930)

CRUDE PRICE CHANGES

Effective September 13, The Joseph Seep Purchasing Agency advanced Pennsylvania Grade Oil in Buckeye Pipe Line Company lines 10 cents to $1.90 per barrel.

Effective September 18, Tidewater Pipe Line Company advanced Allegany and Bradford District crude 15 cents to $2.55 per barrel.

EASTERN STATES

(Effective September 18, 1930)

*Bradford Grade	$2.55
Penn Grade Oil in National Transit Lines (Pennsylvania)	2.35
Penn Grade Oil in Southwest Pennsylvania Lines (Penna.)	2.30
Penn Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.20
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	1.90
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.55
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Lines	1.30
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines	1.50
Somerset Oil in Cumberland Pipe Line Lines (Kentucky)	1.30
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Effective Jan. 29, 1929)	.60
Wayne Dist. Oil in Cumberland Pipe Lines	1.24

*Posted by Tidewater Pipe Company.

CENTRAL STATES

(Effective June 26, 1930)
Posted by Ohio Oil Company

Illinois	$1.65
Indiana	1.32
Lima	1.55
Plymouth	1.23
Princeton	1.65
Wooster	1.65

WESTERN KENTUCKY

All grades	1.55

OKLAHOMA-KANSAS

(Effective April 10, 1930)

Below 25 gravity	$ .70
25 to 25.9 gravity	.70
26 to 26.9 gravity	.76
27 to 27.9 gravity	.82
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.185
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

PANHANDLE

(Effective April 10, 1930)

GRAY COUNTY

Below 29 gravity	.755
29 to 29.9 gravity	.805
30 to 30.9 gravity	.855
31 to 31.9 gravity	.905
32 to 32.9 gravity	.955
33 to 33.9 gravity	1.005
34 to 34.9 gravity	1.055
35 to 35.9 gravity	1.09
36 to 36.9 gravity	1.125
37 to 37.9 gravity	1.16
38 to 38.9 gravity	1.195
39 to 39.9 gravity	1.23
40 to 40.9 gravity	1.265
41 to 41.9 gravity	1.30
42 to 42.9 gravity	1.335
43 to 43.9 gravity	1.37
44 and above	1.405

CARSON-HUTCHINSON COUNTIES

Below 32 gravity	$ .775
32 to 32.9 gravity	.825
33 to 33.9 gravity	.875
34 to 34.9 gravity	.925
35 to 35.9 gravity	.965
36 to 36.9 gravity	.995
37 to 37.9 gravity	1.03
38 to 38.9 gravity	1.065
39 to 39.9 gravity	1.10
40 to 40.9 gravity	1.135
41 to 41.9 gravity	1.17
42 to 42.9 gravity	1.205
43 to 43.9 gravity	1.24
44 and above	1.275

WHEELER COUNTY

Below 30 gravity	$ .755
30 to 30.9 gravity	.805
31 to 31.9 gravity	.855
32 to 32.9 gravity	.905
33 to 33.9 gravity	.955
34 to 34.9 gravity	1.005
35 to 35.9 gravity	1.04
36 to 36.9 gravity	1.075
37 to 37.9 gravity	1.11
38 to 38.9 gravity	1.145
39 to 39.9 gravity	1.18
40 to 40.9 gravity	1.215
41 to 41.9 gravity	1.25
42 to 42.9 gravity	1.285
43 to 43.9 gravity	1.32
44 and above	1.355

WEST TEXAS

(Effective April 10, 1930)

Crane-Upton, Crockett, Ector, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.77
29 to 29.9 gravity	.80
30 to 30.9 gravity	.83
31 to 31.9 gravity	.86
32 to 32.9 gravity	.89

CRUDE OIL PRICES AT THE WELL

San Francisco, Cali., September 12, 1930

Effective September 15, 1930, at 7:00 A. M. the following are the current prices offered by
STANDARD OIL COMPANY OF CALIFORNIA
For Crude Oil at the Well (Except Elwood Terrace as below).
Price Per Barrel in Fields Indicated

Gravity	Signal Hill	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Gravity
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70			$ .70	$ .70	$ .70	$ .70	$ .70		$ .55	$ .55	$ .55	$ .55	$ .55	$ .55	14-14.9
15-15.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	15-15.9
16-16.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	16-16.9
17-17.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	17-17.9
18-18.9	.76	.76	.76	.76	.76	.76			.76	.76	.76	.71	.76		.55	.62	.62	.62	.62	.62	18-18.9
19-19.9	.82	.82	.82	.82	.82	.82			.82	.82	.82	.77	.82		.55	.70	.70	.70	.70	.70	19-19.9
20-20.9	.88	.88	.88	.88	.88	.88			.88	.88	.87	.83	.87			.78	.78	.78	.78	.78	20-20.9
21-21.9	.94	.94	.94	.94	.94	.94			.94	.94	.93	.90	.93	$ .92		.86	.86	.86	.86	.86	21-21.9
22-22.9	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	.98	.97	.98	.95		.94	.94	.94	.94	.94	22-22.9
23-23.9	1.07	1.07	1.07	1.07	1.07	1.07			1.07	1.07		1.05	1.04	1.01		1.02	1.02	1.02	1.02	1.02	23-23.9
24-24.9	1.12	1.12	1.12	1.12	1.12	1.12	$1.12		1.12	1.12		1.08	1.08	1.05		1.06	1.06	1.06	1.04	1.04	24-24.9
25-25.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17		1.17	1.17		1.11	1.12	1.09		1.10	1.10	1.10	1.06	1.06	25-25.9
26-26.9	1.22	1.22	1.22	1.22	1.22	1.22	1.22		1.22	1.22		1.15	1.16	1.13		1.14	1.14	1.14	1.08	1.08	26-26.9
27-27.9	1.26	1.26	1.26	1.26	1.26	1.26	1.27		1.26	1.26		1.19	1.21	1.18		1.18	1.18	1.18	1.11	1.10	27-27.9
28-28.9	1.30	1.30	1.30	1.30	1.30	1.30	1.32		1.30	1.30		1.23	1.25	1.23		1.23	1.23	1.23	1.15		28-28.9
29-29.9	1.34	1.34	1.34	1.34		1.34	1.37			1.34		1.26	1.29	1.28		1.29	1.29	1.29	1.19		29-29.9
30-30.9	1.38	1.38	1.38	1.38		1.38	1.42			1.38		1.29	1.33	1.33		1.35	1.35	1.35	1.23		30-30.9
31-31.9	1.43	1.43	1.43	1.43		1.43	1.43							1.38		1.41	1.41	1.41	1.27		31-31.9
32-32.9	1.48	1.48	1.48	1.48			1.52							1.43		1.47	1.47	1.47	1.31		32-32.9
33-33.9							1.57							1.48		1.53	1.53	1.53	1.35		33-33.9
34-34.9							1.62	$1.32						1.53				1.59	1.39		34-34.9
35-35.9							1.66	1.39						1.58				1.65	1.43		35-35.9
36-36.9							1.72	1.46						1.63							36-36.9
37-37.9							1.78	1.53						1.68							37-37.9
38-38.9							1.84	1.60						1.73							38-38.9
39-39.9							1.90	1.66						1.78							39-39.9
40-40.9							1.96	1.72													40-40.9
41-41.9							2.02	1.78													41-41.9
42-42.9							2.08	1.84													42-42.9

F. O. B. Ship

KETTLEMAN HILLS

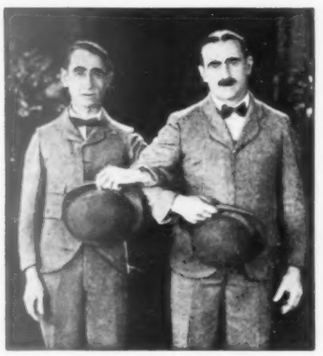
55° Gravity and above $1.65 Per Barrel

(See page 60)

SINCLAIR IS ON THE AIR!

PHIL BAKER
as H-C

SHAW & LEE
as Mobie & Opie



Tune in on "GOING PLACES" with H-C, Mobie and Opie

Never before have such well-known musical comedy and vaudeville stars been associated in a radio program like "GOING PLACES". Phil Baker, Shaw and Lee are all old timers in the business of getting laughs! The list of Broadway hits they have appeared in includes:—"Artists and Models", "Pleasure Bound", "Gay Paree", "Great Boy", "A Night in Spain", "The Greenwich Village Follies", "The 5 O'clock Girl", "Ed Wynn's Grab Bag", "Ziegfeld's Midnight Frolic" and many seasons in vaudeville.

These laugh-makers are bringing business to the Sinclair dealers. Ask the Sinclair salesman.

Monday and Friday Evenings at 7:45 New York time on these stations.

AKRON . . . . . WADC	CINCINNATI . . . . WKRC	NEW YORK CITY . . WABC
ATLANTA . . . . . WGST	CLEVELAND . . . . . WHK	SIOUX CITY . . . . . KSCJ
BALTIMORE . . . . . WCAO	DETROIT . . . . . WXYZ	PHILADELPHIA . . . . WCAU
BUFFALO . . . . . WKBW	DALLAS . . . . . KRLD	ST. LOUIS . . . . . KMOX
CHICAGO . . . . . WMAQ	FORT WAYNE . . . WOWO	TOLEDO . . . . . WSPD
	KANSAS CITY . . . . KMBC	

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SINCLAIR REFINING COMPANY OF CANADA, Ltd., *Toronto*

SINCLAIR REFINING COMPANY OF CALIFORNIA, *Los Angeles*

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 58*)

33 to 33.9 gravity	.92
34 to 34.9 gravity	.95
35 to 35.9 gravity	.98
36 and above	1.01

Magnolia Petroleum Company posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

HOWARD AND GLASSCOCK COUNTY CRUDE

(Effective April 10, 1930)

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.76
29 to 29.9 gravity	.78
30 to 30.9 gravity	.80
31 to 31.9 gravity	.82
32 to 32.9 gravity	.84
33 to 33.9 gravity	.86
34 to 34.9 gravity	.88
35 to 35.9 gravity	.90
36 and above	.92

MARKHAM

The Texas Company

(Effective April 11, 1930)

All grades	$ .85

CORSICANA HEAVY

All grades	$ .80

SALT FLAT AND DARST CREEK

All grades	$1.15

SOUTH TEXAS

Mirando	$ .85
Luling	.85

NORTH AND CENTRAL TEXAS

(Effective April 10, 1930)

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona, Lytton Springs, and Van*

Below 25 gravity	$ .72
25 to 25.9 gravity	.77
26 to 26.9 gravity	.82
27 to 27.9 gravity	.87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

*Pure Oil Company, July 9, 1930.

GULF COAST

(Effective April 10, 1930)

Grade "A" all companies	$1.15

Grade "B"

Below 25 gravity	$1.00
25 to 25.9 gravity	1.03
26 to 26.9 gravity	1.06
27 to 27.9 gravity	1.09
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.15
30 to 30.9 gravity	1.18
31 to 31.9 gravity	1.21
32 to 32.9 gravity	1.24
33 to 33.9 gravity	1.27
34 to 34.9 gravity	1.30
35 to 35.9 gravity	1.33
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.39
38 to 38.9 gravity	1.42
39 to 39.9 gravity	1.44
40 to 40.9 gravity	1.46
41 to 41.9 gravity	1.48
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.52
44 and above	1.54

CLASSIFICATIONS OF GULF COAST CRUDE

The Texas Company: GRADE A—Beaume gravity not over 26.0 degrees at 60 degrees Fahrenheit; sulphur not over 0.5 per cent; in distilling 500 cc. of the crude that part of the distillate cut between 65 per cent off and 85 per cent off shall have a pour test of zero or lower. GRADE B—All Gulf Coast heavy crudes which do not meet tests for Grade "A" or for Gulf Coast light.

Humble Oil & Refining Company: GRADE A—All crude conforming to the following tests: viscosity not less than 100 seconds Saybolt at 100 degrees Fahrenheit; sulphur not over .4 per cent; Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold tests of distillates having a viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit. GRADE B—Embraces all Coastal crude which does not meet the tests for "A" grade crude.

Gulf Pipe Line Company: GRADE A—Beaume gravity not over 24 at 60 degrees Fahrenheit; viscosity not less than 100 seconds universal Saybolt at 100 degrees Fahrenheit; and sulphur not over 0.4 per cent. The yield of 250 viscosity reduced distillate at 100 degrees Fahrenheit not less than 30 per cent, and this 30 per cent not heavier than 20 Beaume, and its pour test not above zero Fahrenheit. The reduced distillate to be secured by reducing the crude with fire and steam until the bottoms have a flash of not less than 540 degrees Fahrenheit, and not more than 560 degrees Fahrenheit open cup, and the entire distillate obtained in this way reduced to a distillate of 250 viscosity. The 10 per cent cut in the original distillate having an average viscosity of 500 seconds at 100 degrees Fahrenheit to have a pour test not higher than 5 degrees Fahrenheit. GRADE B—Embraces crude which does not meet test for "A" grade.

Sun Pipe Line Company: GRADE A—Viscosity not less than 100 seconds at 100 degrees Fahrenheit Saybolt. Sulphur not over .4 per cent. Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold Test: of distillates having viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit A. S. T. M. Method. GRADE B—All Coastal crudes which do not meet specifications for Grade A crude.

REFUGIO

(Effective April 10, 1930)

Below 25 gravity (heavy)	.85

REFUGIO (Light)

Same as Gulf Coast 25 gravity and above.

PETTUS

(Effective August 21, 1930)

All grades	$1.15

BRENHAM

(Effective March 1, 1930)

All grades	.95

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

WYOMING-MONTANA

(Effective April 11, 1930)

Wyoming

Byron	$1.33
Ferris	1.60
Elk Basin	1.55
Grass Creek	1.55
Rock Creek	1.35
Lost Soldier	1.05
Lance Creek	1.63
Mule Creek	1.20
Notches	.65
Big Muddy	1.38
Osage	1.65
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.65
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

SALT CREEK

Midwest Refining Company

29 to 29.9 gravity	$ .90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA

(Effective Feb. 15, 1930)

Sunburst	$1.65
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

(Effective April 11, 1930)

Artesia	1.05
Hog Back	1.43
Maljamar	.95
Jal and Lea	*

(*) West Texas price scale used by The Texas Company and Humble Oil & Refining Co.

CANADA

(Effective June 28, 1930)

Oil Springs	1.95
Petrolia	2.02

LOUISIANA-ARKANSAS

(Effective April 11, 1930)

Homer, Haynesville, Caddo, El Dorado, DeSoto and Crichton and Cotton Valley*

Below 28 gravity	$ .87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 gravity and above	1.57

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS

Below 28 gravity	$ .76
28 to 28.9 gravity	.81
29 to 29.9 gravity	.86
30 to 30.9 gravity	.91
31 to 31.9 gravity	.96
32 gravity and above	1.01

SMACKOVER

Below 24 gravity	$ .90
24 and above	1.05

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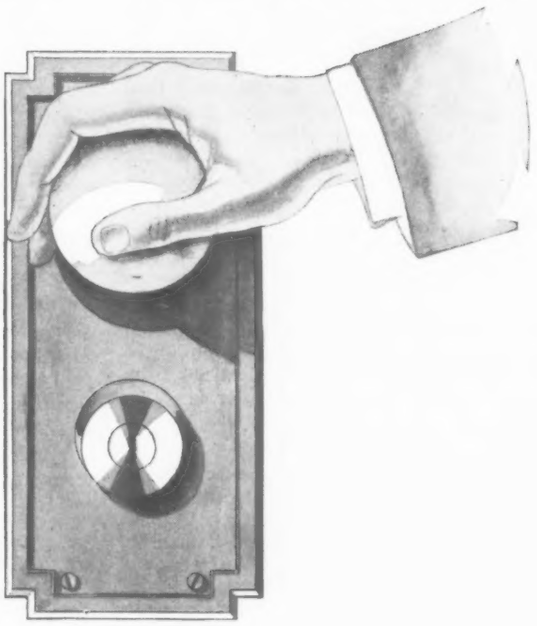

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Unlike common plugs, the Guiberson Spiral Bottom Water Plug has the patented feature of spiral blades which, when the plug is collapsed into place, bite into the walls of the well and take a screw-like hold. Oakum, the best known packing for oil field use is compressed between the spirals. An impenetrable seal is the result, allowing not a drop of water to pass and inmovable by pressure from below. Lasts throughout the life of your well.

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GUIBERSON

BETTER BE SAFE THAN SORRY

PERSONAL MENTION-MEN YOU KNOW

GEORGE S. LONGFELLOW

Burbank Production Chapter Holds Meeting

Tulsa.—Engineers of the various oil companies are hereby forwarned, upon accepting an invitation to address the Burbank Chapter, A. P. I., division of production, to go fully prepared to answer questions, for here is an organization in which field men are alert to their production problems and take every opportunity to secure expert advice from technically trained men.

Regular Chapter meetings are held the second Wednesday of each month, in Sinclair Oil & Gas Company's Community House, about one mile west of Shidler, Oklahoma.

"Care and Use of Pumping Equipment" was the subject for discussion in the meeting of September 10. Dave Collins, production engineer for Gypsy Oil Company, gave the principal talk, in which he presented a large amount of data secured by his company in the Greater Seminole area. Following discussion by members of the chapter, W. W. Trout, of Lufkin Foundry & Machine Company, presented two reels of motion pictures showing the details of several interesting subjects. The meeting was closed with generous helpings of hot dogs, pumpkin pie, ice cream and coffee.

John M. Lovejoy, president of Mexican Seaboard Oil Company, will visit California early in October to inspect the company's property at Kettleman Hills and in other fields.

Russell Moore, district representative of Beaumont Iron Works, suffered the loss of his left arm September 13 in an automobile accident while driving from Hobbs, New Mexico, to attend the opening celebration at Hughes Tool Company's plant in Midland, Texas. A truck skidded into Moore's car on the highway near Odessa, Texas, pinning his arm between the truck bed and the body of the car before he could jerk his arm inside. The member was practically stripped off and had to be removed at the hospital.

David R. Merrill has been appointed manager of research for Union Oil Company, having been advanced from the post of assistant manager.

C. C. Fuller has recently been appointed manager of the Foxboro Company's New York office, replacing the late W. W. Patrick. Mr. Fuller will have charge of this office and will be assisted by K. L. Barton, R. A. Rockwell and F. J. Leerburger.

"Doc" McMurray, formerly field superintendent for Ohio Oil Company in the Playa del Rey field, near Los Angeles, has been transferred to Casper, Wyoming.

S. K. MCLANAHAN

FRITZ HOVING

Fritz Hoving, who for a number of years has been associated with Spang, Chalfant & Company in the Southern territory, making his headquarters at Houston, has recently joined Babcock & Wilcox Tube Company, of Beaver Falls, Pennsylvania. He left last week for an extended trip in the East following which he will select a location for his office.

Bob Ames, formerly sales engineer with Texas Creosoting Company of Orange is now associated with Champion & Barber, Inc. of Los Angeles and is giving his special attention to Naylor Spiral-Weld Pipe in western states.

Paul Rohr, superintendent of production for Sunset Pacific Oil Company at Santa Fe Springs, was fatally injured in an automobile accident near Bellflower, California, death occurring a few days after the accident at the Seaside Hospital in Long Beach.

H. R. Rowland, division manager at Philadelphia, has been transferred to Pittsburgh as division manager of the A. M. Byers Company, Clark Building, Pittsburgh, according to an announcement of H. W. Rinearson, vice-president of the company. E. L. MacWhorter, representing the company in western New York, has been made division manager with headquarters in Philadelphia. Announcement is also made of a national sales meeting to be held in Pittsburgh early in October. This meeting will be held in conjunction with the official opening of the company's new $12,000,000 plant for manufacturing wrought iron under the Aston patents.

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Development at Playa del Rey Continues to Increase

LOS ANGELES.—Showing no signs of abatement, development in the Playa del Rey field has increased until the total number of projects stand at 148, of which 80 are drilling wells, 56 are otherwise active locations and 12 are idle. The steady stream of new locations undoubtedly cannot continue for many more weeks unless very favorable developments bring about increased activity on the larger leases. In the absence of outstanding completions, townlot operators pressed every advantage and took no notice of an absence of new oil to check the natural decline.

Several wells have stopped producing suddenly and this tendency has led geologists to believe that the peak will be much smaller than more optimistic estimates indicated several weeks ago. These wells have died for various reasons, both mechanical and formation difficulties having been encountered, but the true significance of this loss in production has not been determined.

The fact that no really large wells have been completed indicates a small average initial production and seems to spell doom for townlot operators who start late in the drilling campaign. The decline of the best wells has been rapid, although water has not yet played a prominent part in the drops.

Interest in the upper and lower zones is about evenly divided, with the smaller cost of completing wells in the upper sand being largely offset by the possibility of obtaining a larger flow in the deeper zone. Certainly the shallower zone has not displayed a pressure or yield which could make it more than mediocre. The deep zone is comparatively thin, apparently being thicker on flank leases than on certain top tracts. The broad nosed anticline is not uniform and the oil sand seems to thin out toward the top. This indicates erosion, but additional drilling will be required to determine this question.

Flank Well at Kettleman Hills Makes 11,000 Barrels Daily

COALINGA, Calif.—Producing up to 11,000 barrels of 40 gravity oil and nearly 100,000,000 cubic feet of gas, Superior Oil Company's Huffman 1 has proved to be the sensation of the year in California and further emphasizes the importance of Kettleman Hills. Located on the edge of the structure and given only an even chance for commercial production, such a producer stands out even where freak wells are to be expected. A large production of 40 gravity oil on the flank indicates that the edge of the field may produce the bulk of the oil, leaving the inside leases to yield most of the gas and light oil condensate. Some geologists think the water is crowding the oil from the edges, with the gas being confined chiefly to the top of the structure. The fact that Superior Oil Company's Huffman 1 is producing almost as much gas as the inside wells seems to temper the gas theory, however, and indicates some type of uniformity.

Operators holding leases near and adjoining Superior Oil Company's Huffman tract are becoming restless, although they are not anxious to start extensive operations. The northwest flank has been held as questionable territory and completion of such a large well on fee land was surprising enough to catch many indirect offsets unawares. The moral effect of the most recent completion has been felt in all parts of the field and the possibility of increased drilling in various sections of the North Dome is evident. The government hopes to hold the controlling hand on permits, but four wells on fee land are being produced and offsets to these are either being drilled or projected.

Wells now on production and the yield follow: Associated Oil Company's Whepley 1, 2400 barrels; Continental Oil Company's Elliott 12-8, 3000 barrels; Milham Exploration Company's Elliott K-1, 1800 barrels; Petroleum Securities Company's Felix 1, 500 barrels; Standard Oil Company's No. 38, 1750 barrels; No. 8-1P, 2750 barrels; No. 81-11P, 2300 barrels, and Superior Oil Company's Huffman 1, 11,000 barrels. Gas production for the field totals 560,000,000 cubic feet from the eight wells, with a much larger flow possible from two producers.

Interest in edge tracts which were formerly regarded as off structure has increased, following the completion of Superior Oil Company's Huffman 1. It is evident, however, that only very deep drilling will get the most out of the edge leases. Huffman 1 was completed at 8323 feet and is one of the deepest producers in the world.

For more than 20 years operators drilled or scratched the surface at Kettleman Hills, subsequent developments having proven that most of these early cable and rotary tests stopped before they had drilled more than half of the distance to the Temblor zone.

Complete 9000-Barrel Well at 3457 Feet in Elwood Field

Santa Barbara, Calif.—Barnsdall Oil Company and Rio Grande Oil Company, joint operators at Elwood and discoverers of the field, have added to their long list of producers with the completion of Permit 88-5 as a 9000-barrel well at 3457 feet. After establishing a potential the well was beamed back to conform with curtailment provisions. The new well is only one location from Permit 88-4, which was recently completed with a high flow of 14,500 barrels. After a successful development campaign on mainland leases, these companies entered the race to drill the ocean permits which extend up to 4000 feet into the Pacific ocean. Locations have been made farther and farther from the mean high tide line until wells have been started in water nearly 30 feet deep and more than 1200 feet from shore.

Bankline Oil Company completed State 89-4 with an initial production of 3000 barrels from 3395 feet. This company was the original operator on ocean permits and was forced to bring in all equipment and supplies by water until a road was opened along the tide line.

Although development has been especially effective on ocean permits, the absence of intense drilling has limited

production. Seven wells are being drilled, all being located on ocean permits. This type of development has doubled production and placed the field among the leaders of the state. Construction of the piers used to support derricks is a real engineering achievement and many ideas original with this field have been incorporated in the drilling program.

California Oil and Gas Association Adds Department

Los Angeles.—More than 100 concerns have joined the new department of the California Oil & Gas Association devoted to the interests of the manufacturers of oil field equipment and supply dealers, according to announcement made at a meeting held in Los Angeles September 19. It is understood that the membership is expected to be increased to about 200 during the membership campaign to be conducted during the next few weeks.

Harry Hillman, chairman of the general committee named at the first meeting, presided and gave a partial outline of the plans of organization, which included the naming of sub committees for the handling of various subjects, such as problems faced by the tubular goods salesman, core drill concerns, placing equipment out on approval, etc.

The directors of the association at a recent meeting decided to include the new department in the association, with membership costs ranging from $25 to $100 a year, according to size of membership concern. The new department will be represented on the board of directors of the association with four members, to be elected by the manufacturers and supply concerns.

After a general discussion of various problems faced by those in attendance, the meeting adjourned subject to call of the chairman, who at the next meeting will announce additional committees, one of which will be the membership committee.

Ed Higgins, managing director of the association, introduced President MacMillan of the association who told the objects of the organization, welcoming the new department into its folds. F. C. Merritt, Elliott Core Drill Company, told of a few of the problems of the core drill manufacturer, while Joe Dunn talked for the larger supply houses.

Inglewood Operations Slacken

Los Angeles.—Idle wells are again beginning to predominate in the Inglewood townlot district of the Potrero field and only another good completion will cause the customary revival of field activity. Discovery of several producing zones between 4000 feet and 6000 feet kept the field in a state of excitement for more than a year. Star Petroleum Company is drilling in oil sand below 6500 feet in No. 1, making this the most important test in the field. Richfield Oil Company recently completed a well considerably shallower but still holds the record in the matter of deep production.

Development Imminent Near Olive

Los Angeles.—The Texas Company and Standard Oil Company of California have been taking leases near Olive, between the city of Orange and the Richfield field, but have made no announcements concerning drilling operations. Standard Oil Company and other companies have drilled in the district, the deepest test having started short of 5000 feet.

North Belridge Test Meets Difficulties

Taft, Calif.—Belridge Oil Company has encountered various mechanical difficulties in No. 15, a deep test in the North Belridge field, and may lose a portion of the 5408-foot hole in the fishing and sidetracking operations. This well is regarded as one of the most important deep tests in California, having made about 30 barrels of light oil on a production test at 5086 feet. The Temblor zone was found to contain oil but since only the top was tested the true possibilities of the formation are not yet known. A very high pressure was developed and petroleum engineers believe that the well was damaged prior to the production test. Additional hole has improved the appearance of the well and the Temblor zone promises to be productive in this district. If this formation produces, the Lost Hills field stands an excellent chance for production in the same zone which made Kettleman Hills famous.

More Join Porterville Rush

Tulare, Calif.—The rush to develop the shallow Porterville structure, which has not yet been proven a commercial producer, has grown to include several new operators, but the larger independents have made no effort to obtain acreage in this questionable district. What is known as the discovery well is pumping about 50 barrels, but most of this fluid is water. Completed at the shallow depth of 918 feet, the well looked very attractive to the small operator, but its subsequent failure to produce more oil than water leaves the field without a producing well. Eighteen locations have been made, of which 13 are now actively drilling.

Abandon McKittrick District Test

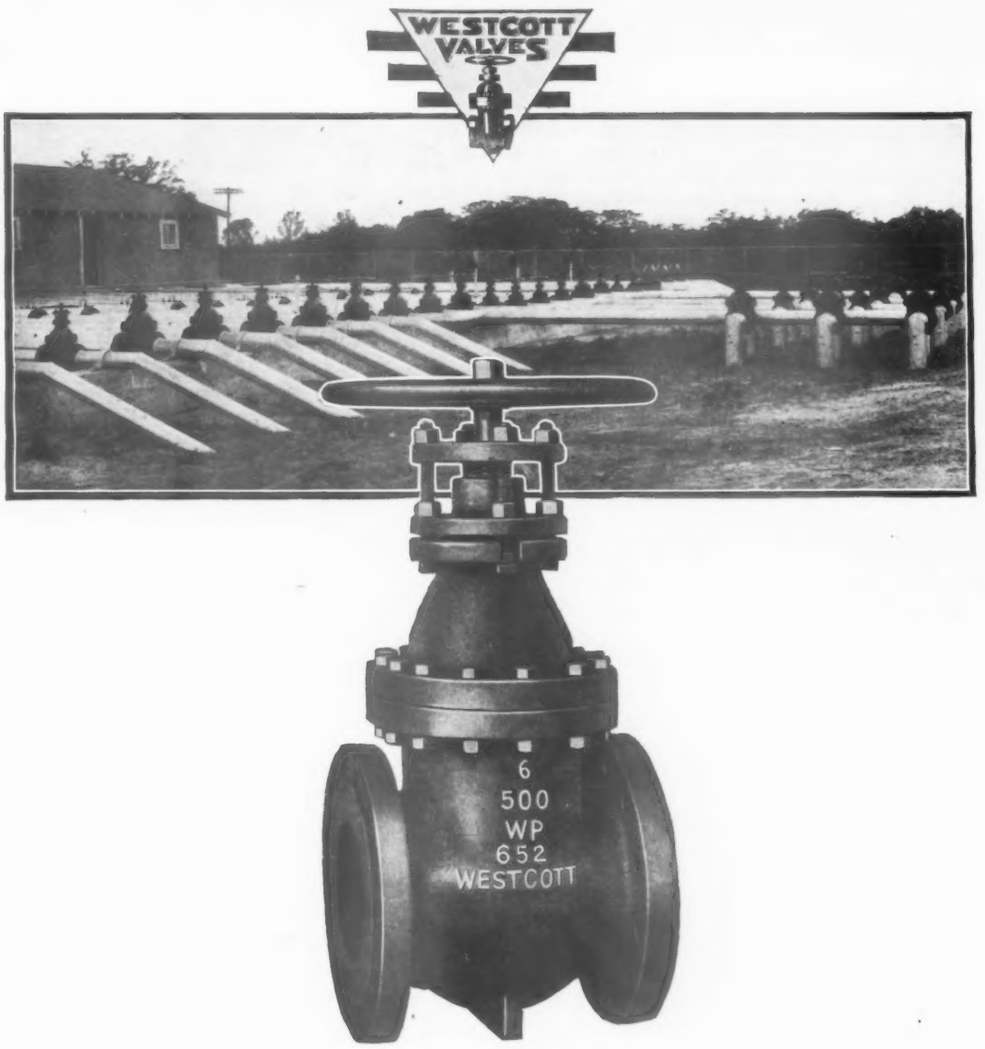
Taft, Calif.—The Ohio Oil Company is abandoning M. M. 1, Section 32-20-22, an important test in the McKittrick district, following the coring of thin streaks of oil sand in the Temblor zone below 5900 feet. The top of the formation was found at 5885 feet and the well drilled to 7362 feet before abandonment. The Temblor zone holds a great attraction, following the discovery of Kettleman Hills, and other fields in the San Joaquin Valley will be tested.

Complete Shallow Well at Ventura

Ventura, Calif.—Shell Oil Company continued its successful operations in the shallow zone at Ventura Avenue, completing Taylor 57 with an initial production of 600 barrels from only 4208 feet. For nearly three years development centered on the deeper zone, completion depths havnig crept downward from 6000 feet to 8000 feet. Shell Oil Company has been successful during 1930 in the shallow zones.

Mule Creek Well Being Deepened

Newcastle, Wyo.—Argo Oil Company has opened a new producing horizon in the Mule Creek shallow oil field in Niobrara County. Its Weehopeso 1, in the heart of the field, at 3163 feet and two feet in the sand pay, has a hole nearly full of black oil. The pay sand is in the Minnelusa formation, correlated in other fields in Wyoming with the Tensleep formation. It is being drilled deeper and will probably make several hundred barrels when completed. The Minnelusa formation was topped at 2665 feet.



FLEXIBILITY — a Westcott installation handling 185,000,000 cubic feet of gas per day at 200 pounds gage, with flexibility for a maximum capacity of 250,000,000 cubic feet at 250 pounds gage — the largest Orifice Meter station in the world, in service for the Arkansas Natural Gas Corporation at Sterlington, La.

WESTCOTT VALVES

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California's Rated Allowable Cut to 540,000 Barrels

(Continued from page 25)

able for this field down to 35,000 barrels. The fact that the potential here has been established through the use of larger beans than commonly employed is largely offset by acceptance of the radical slash.

Under the provisions of the new schedule, each operator must absorb any new well excesses in advance of completions, and when these excesses are greater than the estimates of the operator, the greater amount must be absorbed under the direction of the umpire within 10 days after completion up to October 1 and within five days after completion for wells completed after this date.

Allowable Difficult to Attain

It is obvious that, with a base allowable of 540,000 barrels, an unobtainable curtailment of 7000 barrels at San [illegible] Springs, a field production of about 18,000 barrels at Playa del Rey and an excess of at least 10,000 barrels at Kettleman Hills, the best net figure obtainable will be 575,000 barrels. Some of the fields may be able to shade their allowables, but excesses in the flush fields probably will at least equal underproduction in the settled fields.

Considerable opposition was encountered among the major operators before the current plan was adopted. Realization that consumption of both crude and refined products is not showing the increase over 1929 that the first part of the year recorded played an important part in formulation of the reduced schedule. The rise of the Playa del Rey field and distribution of this crude to independent refiners has been a disturbing factor, and failure to obtain an agreement to limit the output made precautionary steps necessary, even if at the expense of other fields.

Production at Santa Fe Springs has been running around 106,000 barrels, which is 16,000 barrels above the allowable. Long Beach is given an allowable of 95,000 barrels, as compared with an actual output of 102,000 barrels. It will require additional effort to bring the output of these fields down to the desired levels, while at Santa Fe Springs achievement of this end seems impossible because of the unobtainable curtailment previously mentioned.

Kettleman Hills has again assumed a menacing aspect and curtailment leaders are considerably worried over the possibility of a large production of extremely light oil from this field. It already has a rated potential production of 90,000 barrels and an actual output of 23,000 barrels, and possibility of more intense development has excited the more conservative operators.

William Reinhardt, chairman of the Kettleman Hills North Dome curtailment committee, has issued a statement in which he refers to the field as a menace and cites the feasibility of increasing production to 200,000 barrels or even 300,000 barrels within a year. It was pointed out that Kettleman Hills wells flow large volumes of oil of such high gravity that every barrel yields almost nine-tenths of a barrel of gasoline when refined under ideal circumstances. With this another five-tenths of a barrel of gasoline is produced from the gas accompanying the oil. Thus it is evident that each barrel of oil produced at Kettleman Hills accounts for considerably more than one barrel of gasoline.

Kettleman Crude Has Greater Yield

The statement shows that inasmuch as the average barrel of refinable crude produced in California yields only four-tenths of a barrel of gasoline, every barrel of Kettleman Hills crude is equivalent to three and one-half barrels of the the average crude. It is obvious that a field production of 200,000 barrels in this field would be equivalent to an output of 700,000 barrels in other fields, at least as far as the ultimate recovery of gasoline is concerned. It may be necessary to qualify this statement, however, as there is evidence that much of the oil produced on the North Dome will be much heavier than that obtained in the discovery well and subsequent completions. Even a gasoline recovery of three-fourths of a barrel per barrel of crude produced would result in disaster if the output continues upward.

California, according to Reinhardt's statement concerning Kettleman Hills, disposes of 128,000 barrels of gasoline daily on the Pacific Coast, exports 60,000 barrels daily and ships about 58,000 barrels to the Atlantic seaboard. This total of 246,000 barrels of gasoline could be met by Kettleman Hills with crude production of only 175,000 barrels.

Reinhardt, who is an executive of Shell Oil Company, stated that an old-fashioned drilling program at Kettleman Hills, such as those that have been staged in other fields in the state in past years, would seriously endanger the gasoline and crude market of this country and the entire world. On account of the initial heavy flow in this field, production costs would be low over the flush period of the field. Other fields might have to shut down or operate at a loss to compete with this flood of high gravity oil. It was pointed out that operators in other fields could not shut down because of lease forfeitures and the result would be drastic competition with very low prices prevailing. The net result of this untimely development probably would be terriffic losses to land owners and oil operators all over the United States, besides only a small immediate profit for Kettleman Hills land owners. Besides a disruption of the oil industry from a financial standpoint, the unemployment situation would be even more acute than at present, Reinhardt concluded in his statement.

Conservative operators claim to see danger ahead, basing their fears on the fact that due to the high pressures prevailing at Kettleman Hills completions must be allowed to produce more or less unrestrained.

Little progress has been made along curtailment lines at Playa del Rey, the chief hope seeming to lie in the possibility that the field will have a low peak production. Development is intense and a favorable turn might send the field total to some point above 30,000 barrels.

Puente Hill Test Promising

Los Angeles.—Rio Hondo Oil Company's Rowland 1, a wildcat test in the Puente hills about four miles north of the Brea Canyon field, flowed mud, oil and water for some time, following attempts to run tubing for a production test, but sanded up and stopped flowing after demonstrating that most of the fluid was water and mud. The tubing pressure was about 25 pounds and the casing pressure 225 pounds. Although an unimportant well in its present status, the fact that the test flowed for a short time is significant and could lead to a commercial producer. The well was drilled to 3452 feet, following cementing a string of 8⅝ inch casing at 3330 feet. This district has been active for several years and doubtful oil zones have been cored, but the "weathered out" condition of the formation prevented commercial production.

Mendocino County Test Progresses

San Francisco.—Twin State Oil Company, subsidiary of Sun Oil Company, has passed 4520 feet in Soldani 1, a wildcat test on Section 14-12-17 in Mendocino County, the formation running to shale and hard sand. Thin streaks of oil sand were cored around 3000 feet, but they were not of sufficient thickness to warrant a production test.

Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Cement Pool Allowable Again Cut to 30 Per Cent

ARDMORE, Oklahoma.—Effective Thursday morning, September 18, production was further curtailed in the Cement pool, Caddo County, by reducing the allowable output to 30 per cent of the daily potential. This is the second 10 per cent reduction since September 6, when the original order placed allowable production at 50 per cent of potential. Proration was made necessary when deeper drilling increased production beyond the requirement of Anderson and Pritchard's 4000-barrel refinery, which runs all of the oil in this district. Mid-Kansas Oil and Gas Company and Ramsey Petroleum Corporation's Bert Lackey 6, NE NE NW Section 11-5n-9w, deepest test in the Cement pool, has been shut in as a gas well, having gauged 17,500,000 cubic feet from a broken sand at 4857 to 4971 feet. Rock pressure is 1800 pounds. Magnolia Petroleum Company's Hedlund 5, NE NW NE Section 11-5n-9w, two locations east of the Bert Lackey 6, is drilling below 4300 feet and the same company's White Estate 3 SW SW SE Section 25-6n-10w, is drilling below 2400 feet. Practically every other test in the field is shut down.

Wirt Franklin Petroleum Corporation's James Hooks 3 SE NW NE Section 23-1s-3w, was completed for 1615 barrels during the first 18 hours, making it one of the largest wells in the new field. Production is coming from a series of sands between 1996 and the total depth at 2085 feet. Gravity of the crude is 27.5 degrees. Magnolia Petroleum Company's Ethel Gill 8 SE SE NE Section 23-1s-3w, third location southeast of Franklin's James Hooks 3 swabbed 718 barrels during the first 24 hours from a series of sands between 2261 and 2550 feet. The well is located on the west side of the new extension near the old Tatums pool. Same company is drilling below 3175 feet in its Mose Dickerson 1 NW NE SE Section 24-1s-3w, having failed to find the regular sands from which production is being obtained in adjacent wells. Franklin Petroleum Corporation's Mitchell 2 NE NW SE Section 24-1s-3w, direct west offset to the Dickerson, had a series of sands from 2310 to 2435 feet and produced 1070 barrels during the first 24-hour gauge. The Tatums pool is in an area of steeply dipping structures but it is hardly plausable to explain the structural difference between these two wells except by faulting.

Bryan Oil Company has resumed drilling on its Childs 1 NE NE SE SW Section 8-7s-10e, after having been shut down for repairs at 320 feet. This test is located about six miles southeast of Durant near the town of Roberta, in an area in which there has been little drilling. The Woodbine or "Silo sand", basal formation of the upper Cretaceous, covers the surface of the area. Small showings of oil and gas have been obtained from shallow sands in the general area but it is not believed that oil or gas will be obtained in commercial quantities in any formation above the Trinity sand, which is lower Cretaceous in age and should be encountered at approximately 1000 feet.

Nelson-Obermeyer et al's Abernathy-Knox 1 NE NE SW 10-4n-3e, two miles northwest of Stratford, in Garvin County, is cleaning out and setting liner at a total depth of 2465 feet on top of a saturated sand. There is approximately 400 feet of oil in the hole.

Completions at Oklahoma City Total 150,000 Barrels

OKLAHOMA CITY.—Mid-Kansas Oil & Gas Company and Ramsey Petroleum Corporation's Messer 1 SW SW SW Section 32-14n-3w, new discovery well near Edmond, was shot with 90 quarts on September 17 and responded by flowing and swabbing 732 barrels in 16 hours. Total depth is at 4771 feet, 74 feet into the Wilcox, according to the opinion of several geological departments. Prior to shooting, the well had swabbed and flowed 431 barrels in 24 hours and it probably will be shot again in the upper part of the sand in hopes of getting enough gas to make the well flow. Correlation of the sand from which production is being obtained, continues to be a point of argument, the only agreement being that it is in the Simpson formation. Some believe it to be a sand in the upper part of the formation, others believe it to be the upper Wilcox, while about as many are placing it in the lower or second Wilcox.

During the past week attention was drawn to Sections 2 and 10, in the northwest part of the south Oklahoma City pool. J. E. Mabee's Rusty 1 SW SE NE Section 10-11n-3w, encountered the top of the Detrital and broken sand at 6338 feet and, at a total depth of 6450 feet, put 1807 barrels of oil into the tanks in one hour. Slightly over a half mile to the southwest, Hall and Briscoe et al completed Holmes 5, SE NW SE Section 10-11n-3w, for 150 barrels in five minutes along with 40,000,000 cubic feet of gas. Calculated at this rate for a full 24-hour period, the well would be good for more than 40,000 barrels initially. It is a north offset to the same company's Holmes 1, which was completed in June for an initial gauge of 9743 barrels in 12 hours.

The largest well of the week was Minnehoma Oil Company's Byron Pugh 1, SW SW NW Section 2-11n-3w, which gauged 7000 barrels in three hours and five minutes, making it the largest high gravity well ever completed in the Mid-Continent and perhaps larger than any other high gravity well in the oil producing world. Two locations to the east, Hall and Briscoe et al completed Lindsay 3, SE SW NW Section 2-11n-3w, for 3008 barrels in one hour and 30 minutes. Initial production from the three wells, if calculated for the full 24-hour period at the tested rate, would total in excess of 150,000 barrels, making the past week an all time record for the pool. In Section 31-11n-2w and Section 36-11n-3w, on the south end of the pool, some of the largest wells were found one or two locations inside of a line of wells which found water in the bottom of the sand and were relatively poor. A like condition may be found to exist in the northwest part of the pool, in which case relatively poor wells might offset the enormous producers completed during the past week.

Eastborough Field Extended One-Half Mile Northeast

WICHITA, Kansas.—Completion of National Refining Company's V. Murdock 1 CSW SE SE Section 18-27s-2e, Sedgwick County, extended the chat production one-half mile northeast in the Eastborough pool. Top of the Kansas City lime was at 2490 feet and chat from 2953 to 2965 feet. It is estimated at about 650 barrels daily and will be put on the pump. This is the fifteenth producer for the pool, and at this time there has been no definition either as to the structure or the limitation of production.

E. L. Study et al's Haury 1, NE SW Section 1-23-4w, Reno County, found the chat dry at 3254 to 3263 feet, had a show of oil and gas from 3301 to 3303 feet, and at 3333 feet, was shut down with an estimated 22,500,000 cubic feet of gas showing sulphur. The test is 11½ miles east of Hutchinson, and approximately two miles northeast of a dry hole which was drilled to 4090 feet.

Roth and Faurot's Brant 1-A, SE SW NE Section 12-32s-4e, Cowley County, in the Winfield district, gauged 350 barrels the first six hours from a sand at 2571 to 2574 feet. The well was originally completed in a sand at 2505 to 2520 feet, where it had 5,000,000 gas under a pressure of 625 pounds.

Solar Oil Company, Skelly Oil Company, Carter Oil Company, and Gypsy Oil Company's Brandenstein 1 CSW Section 10-19s-10w, western Rice County, is running 6⅝-inch casing at 3267 feet after having had a five-barrel show of oil at 2930 feet. Base of the Kansas City lime was at 3235 feet with nothing further showing and the test will probably be carried down to the Siliceous lime as originally planned.

Coffey County came into the spotlight when Prairie Oil & Gas Company et al's Hatch 1 NW SE Section 35-21s-13e, responded to a 10-quart shot in what is believed to be the Burgess sand from 1812 to 1822 feet. The well is estimated at 75 to 150 barrels and is located in the trend of the shoe string pools of Greenwood County. The area to the northeast of the well has been little tested and there is every possibility that the new discovery may result in the finding of another of the type of pools for which that part of Kansas is noted.

It is reported that Tatlock and Elwell have sold a half interest in their 80-acre lease comprising the W½ SE Section 22-20s-10w, to Atlantic Oil Producing Company at a consideration of $35,000. The sale includes one-half interest in the lease and the Loesch 1 SWc NW SE Section 22-20s-10w, which is drilling below 3000 feet. This lease is located a short distance east of the Raymond pool which will soon have an outlet through Prairie Pipe Line Company's eight-inch line, which is now under construction.

Exposition Opening Day Program Now Arranged

TULSA.—The opening day program of the International Petroleum Exposition and Congress has been completed and the greater part of the work has been done on the remaining parts of the affair, which will open October 4 to close October 11. The opening day ceremonies will begin at 1 o'clock the afternoon of October 4 at the exposition grounds.

Welcoming addresses will be given by Honorable W. J. Holloway, governor of Oklahoma, and George L. Watkins, mayor of Tulsa. There will be remarks by E. B. Reeser, president of the American Petroleum Institute; Henry L. Doherty, president of Cities Service Company; and Charles E. O'Connor, congressman from the first district of Oklahoma.

The official opening will come through an address by Colonel Patrick J. Hurley, Secretary of War. Colonel Hurley is a citizen of Tulsa and has been identified with the petroleum industry for many years.

The program of petroleum division of the American Society of Mechanical Engineers will begin October 6 and continue for three days. All sessions will be held in the auditorium at the exposition grounds.

The qualifying round of the exposition golf tournament will be played October 6 on the course of the Tulsa Country Club. Play will continue through October 9.

The open forum, which is to be introduced this year, will be held October 10. This comes under the direction of the scientific and technical committee, of which William A. Schlueter, president of Refinery Supply Company, is chairman. It will be held both morning and afternoon in the auditorium at the exposition grounds.

The purpose of the open forum is to afford an opportunity for discussion of problems in all phases of the petroleum industry. Any person may bring a question before the assembly and the effort will be made to have it answered by others in the audience.

C. C. Oberfell, president of Philfuels Company, a subsidiary of Phillips Petroleum Company, will preside.

The exposition this year will offer but few attractions in the way of entertainment. A troup of mounted boys will be seen during the first part of the exposition. There will be exhibitions of aerial work on a wire between two derricks and "gin pole gymnastics" each day.

Pre-Exposition Meetings Set For October 3 and 4

TULSA, Oklahoma.—Activities related to the International Petroleum Exposition will get under way here October 2, when directors of the American Petroleum Institute, as well as members of the divisions of production, refining and marketing, begin their sessions. These will continue through October 3, while the exposition will open October 4 to continue through October 11.

The program for the A. P. I. meetings follows:

October 2, 10 a. m. general committee, division of production, William N. Davis, vice president of Phillips Petroleum Company and chairman of the division, presiding.

October 2, 2 p. m.—General committee, division of refining, W. M. Irish, president of Atlantic Refining Company and chairman of the division, presiding.

October 3, 10 a. m.—General committee division of marketing, Henry M. Dawes, president of Pure Oil Company and chairman of the division, presiding.

October 3, 1:30 p. m.—Meeting of the board of directors of the A. P. I., with E. B. Reeser, president of Barnsdall Oil Corporation and president of the institute, presiding. Luncheon will be served the directors, as well as members of the three divisions of the organization.

Advance Information as to the purpose of these meetings reads as follows:

"The general committees, at their separate meetings, will review the activities of their respective divisions, consider suggested recommendations it may be desired to make to the board of directors and discuss general problems related to their particular work. The general committee of the division of marketing will discuss the work of the National Code of Practices for the Marketing of Refined Petroleum Products.

"The board of directors and the general committees have invited members of other general committees to participate in their respective meetings. It is expected that the joint meeting of the board and the general committees will offer full opportunity for the discussion of numerous problems affecting the industry."

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Howard-Glasscock Operators Ask Chalk Allowable Increase

FORT WORTH, Texas.—At a meeting held on Monday, September 22, at the Blackstone Hotel here, Howard-Glasscock operators entered protests against the Texas Railroad Commission, asking that they be allowed to increase output of sweet oil. It was requested that the commission grant operators in the Chalk field an exemption, temporarily, from the limit set for sweet oil being obtained from the 1300- and 1800-foot horizons. It was pointed out to the commission that the demand for this type of oil is larger than the amount now being allowed and it was specifically cited that the Col-Tex refinery located at Colorado, Texas, has immediate need for at least 2400 barrels more oil daily. This plant, it was stated, cannot run on sour oil and the proration order has seriously affected the operation of this refinery in that it cannot obtain its full requirements of the grade of oil desired from the Howard-Glasscock area.

Commissioner Terrell, presiding at the meeting advised operators present that he would take the matter up for consideration at an early date. Those representing the Col-Tex refinery at the meeting explained that the current needs of the refinery are 5000 barrels of sweet oil daily, and under present restrictions it was impossible for them to obtain more than about 2500 barrels daily. It is believed that these protests will result in a temporary lifting of proration upon this particular grade of oil, although others present, representing fields that produce sour oil voiced objection on the ground that they would be obliged to lower the allowances on their wells. It is readily seen that under existing proration schedules for the entire Howard-Glasscock area, it will be necessary to offset an increase in allowances in the Chalk field by corresponding decreases in other fields of this area. If the Railroad Commission decides to increase the allowable output of the Chalk field, without ordering a decrease in other fields in order to maintain the maximum figure for this area, as originally ordered, there will be no further objection from other operators. Whatever is done will only be of a temporary nature, however, and if the output of the Chalk field is increased for the time being, it will be necessary later for the Col-Tex to either equip its refinery to run sour oil, or obtain the difference required from some other source.

Pure Oil Company also offered testimony to show that revenue from its wells in the Chalk field was only about equal to operating expenses and protested against present proration schedules. This argument was not given much support by other operators, however, who stated that they were all in the same situation and were obliged to live up to the proration order.

Van Operators Threatened With Tax On Royalty Properties

Corsicana, Texas.—Considerable apprehension is felt in the Van area as a result of an attempt on the part of the Board of Equalization to assess and tax royalty properties there. Prominent operators in the Van field feel that this action is unjust, since all other oil producing areas of the state are taxed on values of production rather than on all farm land alleged to be oil producing property.

County officials are endeavoring to tax oil royalties and have decided to make assessments, back-dated to January 1, 1930. If this measure is finally adopted and exercised it will result in the collection of a sum that will aggregate around $800,000. Royalty tax assessments have been posted against 89 farms that are included under the terms of royalty properties within the county. These assessments range from $500 to as high as $71,000. It is felt that in setting up such large values on unimproved and undeveloped properties, outside capital will be discouraged. It is also felt that such assessments as those proposed in this instance are decidedly unfair and discriminatory. In some instances, it has been pointed out by active operators in this field, that assessments have been made against properties that had until recently no existing value as royalty properties. As a matter of fact, those who are entering vigorous protest against such assessments, point out that there were only four wells completed in the Van field on January 1 of this year, the date from which the assessments are to be made.

New Line From Yates Field to Glenn Pool, Oklahoma, Likely

SAN ANGELO, Texas.—Possibility of a new line from the Yates pool, in Pecos County, to the Glenn pool of Oklahoma appears likely as a result of the merger of the Transcontinental Oil Company with the Mid-Kansas Oil & Gas Company, Ohio Oil subsidiary. Those who have attempted to interpret the merging of these interests with immediate future developments in West Texas advance the opinion that Ohio Oil Company's activity in pipe line building from Oklahoma to the East now furnishes the nucleus for a line from Yates to connect with the Oklahoma line, thereby enabling the movement of Yates crude directly to Ohio Oil Company's Findlay, Ohio, refinery, as well as making possible the movement of this oil to points further east.

Mid-Kansas Oil & Gas Company is stated to have 123 wells in the Yates area that have a potential of nearly 3,000,000 barrels of crude daily, and an allowable production of about 48,000 barrels, under current proration schedules. While no definite official information is available on this project, it is logical to assume that such a line would constitute a most important link in The Ohio Oil Company's pipe line system.

Interest continues to center around the Fuhrman well in Andrews County, and was somewhat quickened following news that drilling is now proceeding ahead, the heavy flow of gas having been successfully shut off. Latest reports show that the drill stem is now down to 4169 feet and penetrating through white lime. The hole is full of water while the gas is being Bradenheaded between five- and six-inch casing. Upon the successful completion of this well depends the outcome of the proposed sale of University Block 9, containing 50 sections. It is understood that many protests have been received by the University lease board, concerning the proposal to sell this strategically-located acreage. If the Fuhrman well re-

sults in a good producer, it is quite likely that bidding for acreage in Block 9 will become spirited.

A report received from the umpire of Winkler County shows that there are 276 units and the total potential production of the entire field is 165,278 barrels daily. On the basis of 50 per cent on acreage and 50 per cent on potential, the maximum allowance is 80,000 barrels for the entire field. There are 561 wells in this area.

Southern Crude Oil Purchasing Company's Cowden number 1 well in Ector County was shut in recently for lack of storage room. This well continues to show upward of 250 barrels of oil daily, having produced more than 2700 barrels from September 9 to 19. Expected activity in the vicinity of this well has not as yet materialized but there is reason to believe that further tests will be made in the near future. Big Lake Oil Company's University 4, in Reagan County continues to drill ahead, last minute report showing its depth as 8365 feet. The number 3 University has been drilled to a total depth of 8923 feet and is flowing about 165 barrels of oil daily. Another 500 to 600 feet on the number 4 well should tell the story on this interesting test.

Winkler County furnished an interesting development last week when Prairie Oil & Gas Company re-completed its T. C. Hendrick for a production of 650 barrels of pipe line oil per hour. The initial production of this well after deepening was only 75 barrels per hour. Top of the new pay is 2962-67 feet.

Gulf Well in Ward County Promises Best Production in Area

Pecos, Texas.—A good well was completed in Ward County Tuesday morning when Gulf Production Company completed O'Brien 13, Section 6, Block F. The well flowed 200 barrels in 2½ hours from pay topped at 2578 feet with an increase at 2595 to 2600 feet, which is total depth.

This is perhaps the best well thus far completed in Ward County. It is located near the Winkler County line and the surface elevation is 2656 feet.

About three million feet of gas was encountered at 2560 feet. Phillips Petroleum Company's Whitten 1, in Scheicher County, swabbed less than a barrel of oil from 4915 to 4925 feet and it has been decided to abandon it without shooting.

New Rusk County Test Planned

Henderson, Texas.—Work on a new well, 2500 feet south of the Joiner well in the Rusk County field, is expected to begin within the next three weeks. The new well is to be the Daisy Bradford No. 1 and will be drilled by Hill and Younger. F. M. Freeland and Jim Scoggans of Fort Worth have been given the contract to drill this new test. The contract provides that the well is to be drilled to paying quantities of oil or gas, or to a depth of 4000 feet.

Van Field Advisory Committee Named by Commission

Austin, Texas.—The Texas Railroad Commission announced on September 17 that an advisory committee had been appointed for the Van field, consisting of B. S. Sorrelle, Fort Worth; F. C. Seeley, Houston; John R. Suman, Houston; M. B. Sweeney, Dallas; E. G. Allen, Dallas, and George Anderson, Fort Worth. The newly appointed committee is to have jurisdiction in enforcing proration in the Van producing area, and will act in an advisory capacity to the Texas Railroad Commission.

Gray County Producer Starts Offset Campaign

AMARILLO, Texas.—An unusual show of oil resulting from an unexpected blowout on a wildcat operation drilled by Graham and others, about three miles southwest of Pampa, Gray County, has aroused interest in this area during the past week. This well, which is on the R. Sullivan 240-acre tract in Section 136, Lot 3 I. G. N. Survey, was drilling at 2990 feet when it blew out with a large volume of gas and oil. The first showing was made September 17, and for a while the well was completely out of control. After getting the well under control a test made on Saturday showed a production of 200 barrels of pipe line oil per hour, with about 15 barrels of waste in addition. A 12-hour test resulted in the production of more than 2400 barrels, indicating a potential of about 5500 barrels a day.

Other operators, including Phillips Petroleum Company, have made about eight offset locations on which drilling is to be commenced at an early date. The strike is in line with proven production to the north and is located northwest of prolific gas production. Preparations have been made to complete the well at its present depth and it is expected that it will be listed as a completion during the present week.

Oklahoma Proration to Be Tested by Federal Court

TULSA.—The legality of proration in Oklahoma will enter the channels of the Federal court system when the petition of Champlin Refining Company of Enid against the Oklahoma Corporation Commission will be heard September 29, before three judges at Oklahoma City. The petition was filed September 17 before Judge Edgar S. Vaught of the Federal court of the western district of Oklahoma. In it an interlocutory injunction is sought.

Judge Vaught has asked Justice John H. Cotterall of the Tenth Circuit Court of Appeals and Judge Franklin E. Kennemar of the Federal District court for Eastern Oklahoma to sit in the case.

While the action is against the corporation commission, it will draw its defense from the legal array of the oil companies, which are in favor of proration. Attorneys for the legal committee of the proration committee of Mid-Continent Oil & Gas Association and representatives of the staff of the Attorney General of Oklahoma met here September 18 to confer on the brief and arguments they will bring to the hearing September 29.

The petition charges briefly that the assumption of state jurisdiction over production and the agreement of the operators to prorate their production are in violation of the fourteenth amendment to the constitution of the United States.

This action by Champlin Refining Company is not connected with the case of C. C. Julian Oil & Royalty Company, which is still before the Oklahoma Supreme Court. The Julian action sought relief from proration orders of the corporation commission on the contention that they were not legal under the constitution of the state. The latter case takes the matter up for a test on a constitutional question with the constitution of the United States.

Champlin Refining Company is one of the outstanding independent oil companies of the Mid-Continent. Its refinery at Enid has capacity of 20,000 barrels daily. The concern has drilled wells in the Oklahoma City field and is now constructing a pipe line from that field to the refinery at Enid. The

company also has extensive bulk and retail outlets for its finished products and is an extensive seller of gasoline and lubricating oils to independent jobbers.

C. C. Champlin, president and owner of the company, is a pioneer merchant and banker of Western Oklahoma.

Six New Locations Announced For Hobbs Area

HOBBS, New Mexico.—Six additional new locations were made in the Hobbs field Tuesday, September 23. Four of these were located in Section 31-18-38 as follows: Empire Oil & Gas Company's 3; Shell Petroleum Corporation's Berry 2; Vacuum Oil Company's Berry 1; and Skelly Oil Company's Fowler 2. The other two locations were staked in Section 19-18-38 as follows: Empire Oil & Gas Company's Hardin 3 and Shell Petroleum Corporation's McKinley 8.

A late check on the Getty state well shows that it swabbed five hours on Tuesday morning September 23, running swab to bottom of tubing, finally starting a flow that looked very encouraging. There was plenty of gas at first but it subsided after 20 minutes. Three-inch tubing was run in this well at 3973 feet and first attempts to swab resulted in necessity to pull tubing to recover the swab which had become stuck at about 1800 feet off bottom.

Amerada Petroleum Corporation's McKinley 4 totaled 4198 flowing with no gauge; Continental Oil Company's 1-A totaled 4178; Ohio Oil Company's No. 2 averaged 86 barrels per hour open; Prairie Oil & Gas Company's well made 10,750,000 feet gas on open hourly gauges and 370 barrels oil with four per cent emulsion and 330 barrels with two per cent potential. Later Shell Petroleum Corporation's Grimes 1 official potential has been set at 6156 barrels and 59,000,000 cubic feet of gas. This is the only new potential for the field as of Tuesday morning.

Hobbs high well is now drilling at 4035 feet and making one bailer per hour of salt water from 3965 to 3975 feet in sandy lime. At least 20 wells will be completed in the field before October 1.

Livington, N. M.—Ohio Oil Company is making a test of its State 1, Section 15-29s-36e, three miles southwest of production in the Hobbs field. It made 25,000,000 cubic feet of gas and 250 barrels of oil. The well will be drilled deeper.

Two Wells Completed at Barbers Hill

Houston.—Although there are several wells standing with casing cemented over oil sands or approaching expected producing horizons, there were only two wells in the Barbers Hill field completed during the past week. Yount-Lee Oil Company's Chambers County Agricultural Association 15 came in flowing at the rate of 360 barrels daily when four joints of screen had been set at total depth of 4715 feet. Mills Bennett Production Company's Gulf-Higgins 4, which was put on the beam, began pumping 250 barrels daily, 15 per cent salt water, at 5285 feet.

Grimes County Wildcat Promising

Houston.—Deering & Noble's wildcat, Templeman 1, in Grimes County, six miles south of Navasota in the Isaac Jackson Survey, showed 10 fourbles of salt water and gas, without oil, on drill stem test made in a sand at 2635-3000 feet, the bottom of the hole being in shale at 3005 feet.

Farther north in Grimes County Deering et al's Muenke 1 in the D. S. Gregg Survey, about one-half mile north of Anderson, was drilling late last week in shale at 2041 feet.

Hobbs Field Potential Now 526,000 Barrels Daily

ROSWELL, New Mexico.—That the head has been taken off the Hobbs pool is evidenced by the fact that fewer unusually large wells are now being completed. The biggest wells brought in last month have not been equalled to date. These were the Gypsy, Grimes 3, with a potential of 21,972 barrels and the Tidal, Grimes 1, with 21,496 barrels. It is remarkable, however, that only four dry holes have been completed to date, and all of these were outside of the main field. There are now 77 oil wells operating in this area and 54 either shut down, drilling or locations, making a total of 135 in all.

Of particular interest in drilling developments within the Hobbs pool are the following wells on which late reports have been received:

Gypsy 4, Section 32-18-38, total depth 4153 feet, showed 341 barrels of oil on 1 hour test.

Humble Oil & Refining Company's Bowers 8, Section 30-18-38, total depth 4215 feet, open one hour and showed 164 barrels of oil.

Shell Petroleum Corporation's Grimes 1, Section 28-18-38, total depth 4175 feet, no oil, showed gas volume of 40,000,000 cubic feet.

The following wells are preparing to test: Empire Oil & Gas Company's Hardin 2, Section 19-18-38, total depth 4210; Humble Oil & Refining Company's Bowers 9, Section 29-18-38, total depth 4220; Ohio Oil Company's State 2, Section 30-18-38, total depth 4206; The Texas Company's 2-C, Section 25-18-37, total depth 4210; George F. Getty Oil Company's State 1, Section 19-21-36, fishing swab at 4000 feet. Tidal Oil Company's Grimes 3, Crevice 3720 feet, blowout, estimated 40,000,000 cubic feet of gas and 200 barrels oil daily. Hole bridged.

Prairie Oil & Gas Company's Grimes 1, Section 28-18-38, (east side), one-hour tubing gauge 192 barrels of oil; one-hour casing gauge 350 barrels of oil. No estimate on gas. Tubing 4½ feet off bottom (3-in.), total depth 4191 feet.

Tidal Oil Company's Coleman 1, Section 17-21-36, plugging back 4014 feet. Making two bailers water every 24 hours. Production is a little over 300 barrels daily.

Potential of the Hobbs pool has now passed the 500,000-barrel mark and is stated to be above 526,000 barrels daily. Present outlet of the field will be maintained at 33,250 barrels daily throughout the balance of this month. On October 1, a further meeting will be held by operators and their committee on proration and it is believed that the same allowable figure now in force will be extended for at least another 15 days. According to C. G. Staley, Hobbs field umpire, the total allowable production of this area since proration has been in effect is 2,320,159 barrels, against this, pipe line runs have amounted to 2,202,704 barrels, or showing a net shortage of 100,983 barrels.

Some leases have run more oil than their allowances while others have run less.

In order to equalize conditions, the proration committee has inaugurated steps that will probably become effective within the next 30 days. Those operators that have entailed a shortage in their runs are anxious to have an opportunity to make up their differences. Since there is an aggregate net shortage for the field, it is believed that the allowances of some operators will be reduced further, while others will be allowed to increase their output on a basis that will proportionately wipe out their unequal differences.

Gulf Coast and South Texas Fields

JACK LOGAN, *Staff Representative, Houston, Texas*

Eight New Inside Wells Completed At Darst Creek

SEGUIN, Texas.—The drilling campaign started several weeks ago on inside locations in the Darst Creek field, Guadalupe County, had resulted by the end of the past week in completion of eight new wells, and in addition, at that time, there were 18 other wells not far from completion, all of the 18 having reached depths greater than 2000 feet, some of them standing with casing cemented over the Edwards lime producing horizon, some having been drilled in but not having been completed, while others had not quite reached the producing zone.

Virtually all of those 18 wells are expected to be completed before the end of September, as their owners will want to have them ready to be gauged for participation in the forthcoming proration program, which will go into effect on expiration of the current schedule on Thursday, October 2.

The current schedule went into effect August 14, following the reinstatement of proration after the late July breakdown of the Darst Creek operators' original curtailment program, and like the forthcoming schedule, it is based 100 per cent on potential production of the various wells in the field as determined by 24-hour gauges of all wells, the 20-acre units of the original proration plan having been dispensed with. When the present schedule was announced there were approximately 165 wells in the field with combined potential production of 156,855 barrels daily, and the allowable output for the field was set at 42,211 barrels daily, or approximately 27 per cent of the potential. That allowance has been rigidly adhered to by the Darst Creek operators.

The drilling campaign of the past several weeks at Darst Creek began when Gulf Production Company started erecting rotary rigs on half a dozen locations on its Thomas Dix and Posey-Baker leases, and within a short time there were 26 drilling operations under way.

Five of the eight wells completed during the past week were by Gulf Production Company, and the other three were wells of The Texas Company. Gulf Production Company's Thomas Dix 3 was completed September 14, at 2530 feet. It began pumping 1100 barrels daily, 50 per cent water. Thomas Dix 4 was completed September 18, at 2531 feet. It began pumping 1100 barrels daily, 50 per cent water. The same company's Posey-Baker 6 began pumping 1680 barrels pipe line oil daily at 2590 feet on September 18, and Posey-Baker 7 came in flowing 600 barrels pipe line oil daily at 2582 feet on September 14. The same operator's D. C. Malaer et al 3 began pumping 550 barrels pipe line oil daily at 2620 feet.

Get Oil at 2524-58 Feet

The Texas Company's Knoblock 9-B, which logged Edwards lime from 2524 to 2558 feet, was swabbed in at the rate of 162 barrels per hour, and later flowed 90 barrels hourly, the production being 33 gravity pipe line oil. That company's Posey 6 came in flowing 14 barrels per hour from 2602 feet, and Henry Willie 6 was swabbed in at 2600 feet at the rate of 87 barrels 37 gravity oil per hour.

Following completion of the new producers, Gulf Production Company is rigging up on four new locations: Tadlock 3 and 4 and Dix-McKean 10 and 11.

That company's Thomas Dix 5 late last week was swabbing at 2525 feet; Thomas Dix 6 was drilling at 500 feet; Posey-Baker 8 was standing with casing cemented at 2545 feet; Cercy Anderson 3 was drilling at 2200 feet; and Knoblock 3 was drilling at 2340 feet.

Humble Oil & Refining Company's Denman 15-A at the same time was fishing at 2128 feet, and its Denman 16-A was in Buda lime at 2448 feet.

Louisiana Oil Refining Corporation's Dix 6 was drilling at 2555 feet, and Dix 7 was drilling at 2532 feet.

Magnolia Petroleum Company's Dix 8 was drilling at 2540 feet, Dix 11 at 400 feet, Annie Knodel 3 at 2000 feet, while Huff 1, a north offset to that company's L. V. Echols 4, had set casing over a crevice at 2237 feet.

Sun Oil Company's Knoblock 9 had casing cemented at 2570 feet; Knoblock 10 was drilling at 2515 feet; No. 11 at 2510 feet, and No. 12 at 2014 feet.

The Texas Company's Knoblock 5-A was drilling chalk at 2200 feet early this week, Knoblock 10-B was in Del Rio clay at 2384 feet; and Knoblock 11-B was in Edwards lime at 2572 feet after topping that formation at 2565 feet.

North Dayton Gets Good Producer From Workover

Houston.—An interesting completion was furnished in the Texas Gulf Coast last week when Harrison Oil Company brought in Quintette 1, a workover, at North Dayton, Liberty County, as a good flowing well. Two joints of 4½-inch screen were set at total depth of 4513 feet, and the well came in flowing 1500 barrels of 42 gravity pipe line oil daily through one-half-inch choke, registering pressure of 650 pounds.

It was that well which furnished North Dayton its first deep production, discovering the sand on the south flank of the dome which by now has proved productive in nearly a dozen wells. It came in originally on July 15, 1927, flowing 400 barrels of 36 gravity pipe line oil daily from 11 feet of sand at total depth of 4135 feet, and it proved to be a consistent, long-lived producer, holding near its initial production for months, and flowing naturally for over a year, following which it was put on the beam. Prior to the completion of Quintette 1 in 1927, all production at North Dayton had been

from the top of the dome, and had amounted to only 703,000 barrels over a period of more than 20 years following completion of the discovery well of the field in September, 1905, Paraffin Oil Company's Fee 3, a 5000-barrel producer at 800 feet.

With deep sand production opened, North Dayton produced 210,000 barrels of crude in 1928, and 195,850 barrels in 1929, while it yielded 322,000 barrels during the first eight months of 1930.

Several other tests are in progress now at North Dayton. Saxet Oil Company's Wilhite 3, on the south flank, is drilling shale and lime at 5307 feet, and that company's Davis 2 is a location. Harrison Oil Company's Gulf Fee 1 is fishing at 4950 feet with the bottom of the hole in shale.

Raccoon Bend Tests Interesting

Houston.—Several interesting semi-wildcat tests are being drilled around the Raccoon Bend field, Austin-Waller Counties, by Humble Oil & Refining Company and Valley Oil Corporation. Their Duncan State Land 2, in the Brazos River Bed on the east side of the field is rigging up. Hugo Hagan 1, two miles south of Raccoon Bend production, is drilling shale at 3515 feet. Fritz Lamp 1, located 1½ miles southwest of Raccoon Bend, is drilling hard shale at 4525 feet. Hardy B-3, in the J. G. Groce League Two, Waller County, located 600 feet east and 270 feet north of B-2, a producer, is still a derrick. Hardy B-2 recently extended production eastward across the Brazos into Waller County, producing 390 barrels daily at 3202 feet. It is 1000 feet east of the river.

In the Raccoon Bend field proper the above two companies, joint operators, are drilling several wells. Their Diemar 3 is drilling sand at 3435 feet. Paine 10 has casing cemented at 3389 feet. Thompson 9 has casing cemented at 3288 feet. J. W. Wilson 4 has set surface casing.

Laredo Pipe Line Runs Total 422,120 Barrels in August

Laredo, Texas.—Crude oil runs of six pipe line companies serving the Laredo district aggregated 422,120 barrels during August, according to Harry L. Fansler, Laredo oil statistician.

His figures show that by the end of August the district had produced 24,212,169 barrels of oil, beginning with the opening of the older pools about nine years ago.

Production during August represented a material increase over that of the previous month, due to increased runs from the new Muckelroy field in Zapata County, which showed a total for the month of 109,220 barrels. That field has 75 producing wells with average monthly oil production of 1590 barrels, or an average of 53 barrels daily per well.

The Laredo district comprises 17 oil pools in the counties of Webb, Duval, Jim Hogg and Zapata. The Cuellar field in Zapata County ranked second in production during August, with total output of 79,462 barrels. The Cole field in Webb County was third in production with 47,703 barrels, and the Schoolfield & O'Byrne field, Duval County, was fourth with 44,444 barrels.

With its two producing areas, the Muckelroy and Cuellar fields, Zapata County yielded more than one-third of the oil produced in the Laredo district during August. Those two fields had 117 wells with combined output of 188,692 barrels.

Magnolia Pipe Line Company, with runs aggregating 236,288 barrels, handled more Laredo district crude during August than any other company, while Humble Pipe Line Company ranked second, with total runs of 125,688 barrels.

Stratton Ridge Dome Test Penetrates Cap Rock Into Salt

HOUSTON.—Rycade Oil Corporation and Amerada Petroleum Corporation, jointly drilling Seaburn 1, on a location beyond what was previously regarded as the west edge of Stratton Ridge salt dome, Brazoria County, are reported to have drilled through cap rock and into salt in the well. Late last week it was said to be coring salt around 2750 feet after topping salt at about 2675 feet. The well is 225 feet east and 4600 feet south of the northwest corner of the Austin & Williams Survey, being approximately three-quarters of a mile west of the nearest wells previously drilled at Stratton Ridge. Although the location for this test was made as a result of geophysical work, there is possibility that it is on an edge of the Stratton Ridge dome. Much drilling has been done on and around that dome, and some oil has been found, but not in commercial quantity.

Freeport Sulphur Company, which has done extensive drilling at Stratton Ridge in the past, has rigged up for two tests on top of the dome, Seaburn 1 and Stratton 1. For several years that company has not been active in the field, and in fact there has been very little drilling there for several years by any operators.

Various interesting tests are in progress on other domes or dome prospects in Brazoria County. At Bryan Mound, commercial sulphur dome seven miles south of Stratton Ridge, Freeport Sulphur Company's Fee 2001 is drilling sandy shale at 3915 feet. It is strictly an oil test, located on the southwest flank of the dome in the Conception Areola Survey, Abstract 141.

At Allen Dome, which is seven miles west of Bryan Mound, Mills Bennett Production Company is drilling at 3775 feet in gumbo in Poole 1, at 3321 feet in sandy lime in Allen 2, and is working over Randon 1, drilled originally to 5212 feet. Some oil production has been obtained at Allen Dome, but the yield has been small, considering the relatively great producing depths.

Shell Petroleum Corporation is drilling water sand at 1271 feet in Haury 1, on the southeast flank of Danbury dome, located about 10 miles north of Stratton Ridge, in the central portion of Brazoria County. At Nash dome, which is on the Brazoria-Fort Bend County line, Rycade Oil Corporation is drilling below 5000 feet in Wisdom 27. Thomas Faust et al's Fee 6, a wildcat located about two miles south of Nash dome, in the H. T. & B. Survey, Section 3, is drilling lime at 5129 feet.

In northern Brazoria County, The Texas Company is reaming at 7140 feet in O. F. Ewing 1, first test of a torsion balance prospect 1½ miles north of Manvel, while its J. H. Murdock 1, in the Charles Heywood Survey, a fraction of a mile southeast of Fresno, first test of a geophysical prospect in that area, is drilling sand at 1725 feet.

Refugio Deep Well Still Uncontrolled

Houston.—Pearson Properties' Ryals 3, deep well at Refugio which blew in Thursday morning, September 18, from total depth of 5760 feet, was still out of control on September 22, blowing gas and gasoline into the air, as efforts were being made to place a control valve on the well.

This wild well is about one-quarter mile from Houston Oil Company's Strauch 1, Block 20, which was out of control for several weeks, finally cratering. Ryals 3 was being drilled deeper after a test when it blew in unexpectedly.

Jim Hogg County Wildcat Progressing

Laredo, Texas.—E. E. Watts et al are drilling at 700 feet in Ignacio Gomez 1, wildcat in Section 125 in the southwest corner of Jim Hogg County, after having penetrated a fairly promising shallow oil sand at 125 feet. That shallow sand was estimated to be capable of yielding an oil well with daily production of five to 15 barrels, but the location had been made for a deep test, and a heavy rig had been installed, and so the shallow horizon was passed up. Regardless of the results of the deep test, it is believed that the shallow oil sand might prove profitable for development with portable rigs and pumping with central power. The Watts test is on a 3500-acre block. It is about three miles east of the Charco Redondo field of Zapata County.

Start Work on Crystal City Gas Line

Del Rio, Texas.—Texas Gas Utilities Company has announced the beginning of construction work on its Crystal City natural gas main line in Zavalla County to deliver gas from the eastern Maverick County field to the "Winter Garden District" southwest of San Antonio. The line is expected to be completed late in October, and it will furnish fuel for operating pumps for extensive irrigation in farming in that district.

Orange County Test Has Oil Show

Houston.—Gulf Production Company has encountered sand with oil show at 6055 feet in W. H. Stark 1 in the M. E. Hall Survey No. 1, Port Neches field, Orange County, and will make a production test. The Texas Company's Stark 2 in the same field is coring sand at 5160 feet.

Polk County Completion Creates Interest

Houston.—Some general interest has been manifested in the oil potentialities of Polk County, southeast Texas, as result of recent completion of a small producer. That well, Sunshine Oil Company's Bates 1, a workover, was completed at 3350 feet as a 50-barrel pumping producer. It was drilled last year and had oil showings, but was not finished as a commercial well. Placed on the beam recently, it has been holding up as a fair producer.

The owners of Bates 1 are now drilling below 4000 feet in Palmateer 2, which is one-quarter of a mile east of the producing well. A new test is scheduled to be started by L. W. Capps on a 1000-acre tract about one mile east of the oil well.

Set Casing in Harris County Well

Houston.—Humble Oil & Refining Company has set casing in Minnetex 3 at Mykawa, Harris County, to test an oil-showing sand logged from 4825 to 4873 feet, but on September 23 the well had not yet been drilled in.

This test is west of the oil and gas producers previously completed at Mykawa by the Humble Oil & Refining Company. It is 1600 feet south and 1200 feet west of Siadous 1, which was completed originally at 3450 feet as a 25,000,000-foot gas well, later at 4935 feet as an oil and gas producer, and which was finally abandoned at 5900 feet. It is 1200 feet south and over 2000 feet west of W. H. Irvin 2, the Mykawa discovery well, which came in as a commercial gas well at 4189 feet, later developing some high gravity oil production.

Exact location of Minnetex 3 is 100 feet from the south line and 125 feet from the west line of the William J. Lovett Survey, Section 252.

Corpus Christi District Tests

Corpus Christi, Texas.—Independent Oil & Gas Company's C. Baldwin 1 about three miles west of here has reached contract depth, and is now shut down at 5020 feet, waiting on orders. Saxet Oil Company's Donigan 2, about six miles west of Corpus Christi, set surface casing at 500 feet, and is drilling ahead at 1350 feet. That company's Rachal 17 is rigging up.

In San Patricio County Union Producing Company's Welder 4 in the Portillo Survey is drilling sticky shale at 4399 feet. Pickett et al's Baldwin 1, one mile east of Sinton, is moving on heavier rig to drill deeper from 3812 feet. Peterman Oil Company's O. K. Crow 1, two miles south of Sinton, is drilling at 2865 feet.

In the Lucas area, Live Oak County, Houston Oil Company is running casing in Cartwright 22, which tried to blow out from gas sand logged at 5419-24 feet. The same company's Ross Boothe 1-A in the M. B. Kiolin Survey, 3600 feet northeast of gas production of the Lucas field, is rigging up. Houston Oil Company's Snyder 1 in the E. Garner Survey 253, Abstract 186, Live Oak County, six miles north of Dinero, is a derrick, and a water well for drilling operations is being put down. Penn Oil Company's J. E. Lyne 1, wildcat about 10 miles southwest of George West in the I.-G.-N. Survey 69, Abstract 247, Live Oak County, is drilling at 2612 feet. Derricks have been erected for two other Live Oak County wildcats: Jacob, Bussini & Pickett's Key 1 in Block 26, Marbach land, Bridgett Faddin Survey, five miles east of George West, and Keoughan et al's C. E. Terrel 1, seven miles south of Fant City in the Dan O'Boyle Survey.

Independent Association's Program

San Antonio.—A wide variety of interesting subjects will be discussed here October 27 at the semi-annual convention of the Independent Petroleum Association of Texas. The convention will last one day, and will include morning and afternoon sessions, a directors' meeting at luncheon, and a banquet at night.

The program as tentatively announced will include papers and discussions on the following subjects: Prices and Basis for Price Structures; Divorcement or Not of Pipe Lines in Ownership from Producing Companies; Obligations of Foreign Corporations to Texas; Proration—All Viewpoints; Nominations and Potentials; Hydrogenation; Imports and Exports; Common Purchaser Law; Anti-Trust Laws; Credit Balance System; Transportation Costs; Storage Problems; Natural Gas Problems; The Independent Refiners' Troubles.

A. J. Devlin of San Antonio, vice-president of the Grayburg Oil Company, has been appointed by Tom Cranfill, president of the Independent Petroleum Association, as chairman of a committee of refiners and marketers to submit to the convention the problems of the independent refiner with recommendations. Other members of that committee will soon be announced.

A. H. Rhodes of Eastland, R. F. Windfohr and Dr. E. R. Riggs of Graham, Charles Lockhart of Pecos, S. D. McIlroy of Amarillo, and Mel Davis and W. B. Saulsbury of Pampa were added to the board of directors of the organization the past week.

Edna Gas Field Test Interesting

Houston.—Jackson County Oil Syndicate's Drushell 8 in the Edna gas field, Jackson County, showed 1200 pounds gas pressure in three minutes on a drill stem test made at 3865-70 feet. The same company's Lee 2 in that field is shut down at 3485 feet waiting on developments in the Drushell test.

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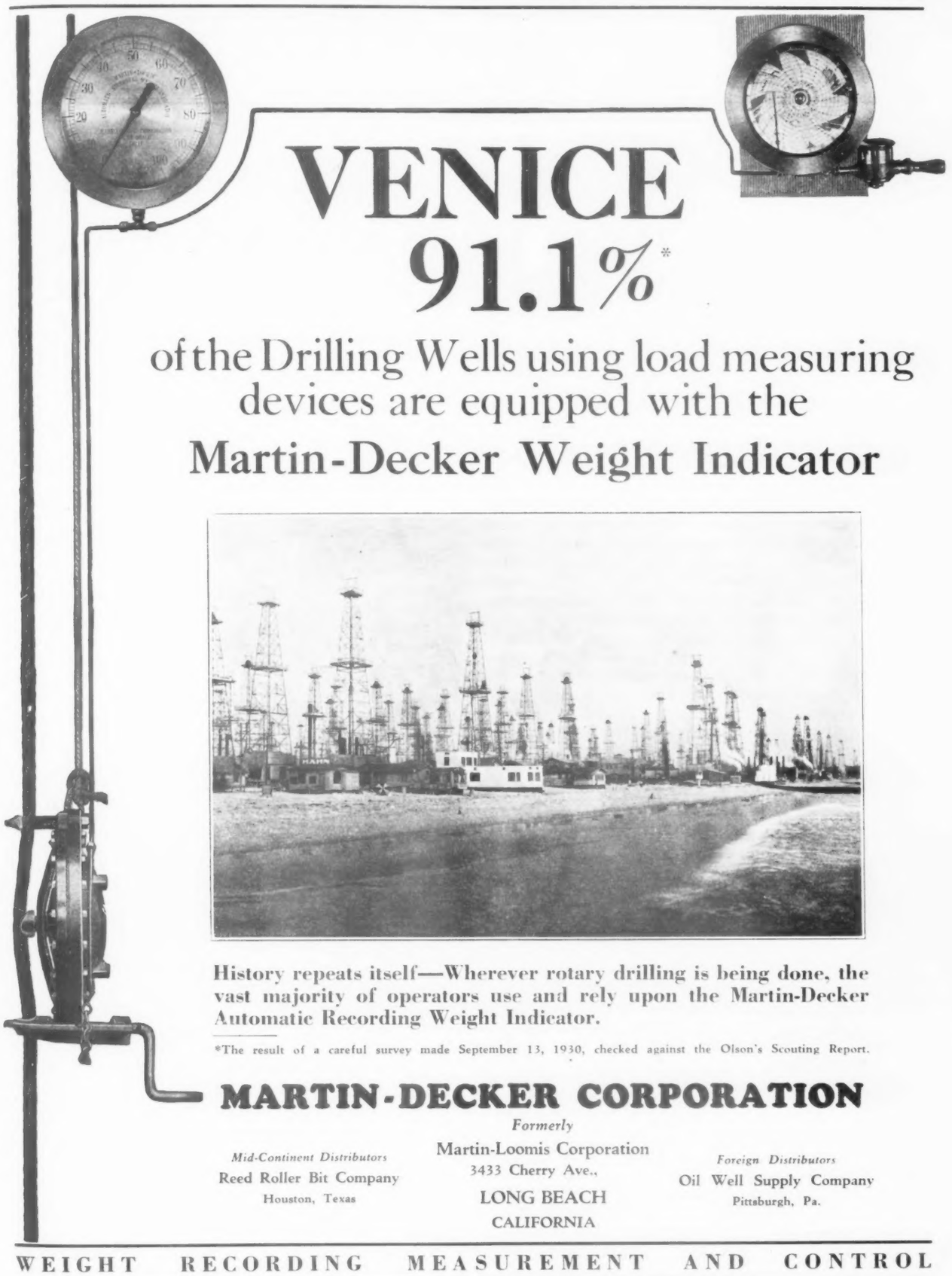

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WEIGHT RECORDING MEASUREMENT AND CONTROL

Louisiana--Arkansas Field Notes

Two Failures and Two Gassers Are Completed in Louisiana-Arkansas

SHREVEPORT.—Two disappointing tests, one in Miller County, Arkansas, the other in the wildcat Arcadia district of Bienville Parish, Louisiana, and two gassers, one of which extended production in the Richland gas field and the other a rank wildcat in Concordia Parish, East Central Louisiana, which was re-tested and completed as a gasser, featured activities in this territory for the week ending September 20.

Big Bill Oil Company's Dean 1, NW SW Section 30-15-25, Miller County, Arkansas, a mile southeast of Lenz and associates' Johnson 1, Section 24-15-26, completed several weeks ago as a small commercial well at 2847 feet in the lower Woodbine, after encountering only a foot of sand at the 2800-foot level went on to 3100 feet, where the test encountered salt water. Apparently the horizon in the Woodbine which Produced in Johnson 1 lenses out to the southeast. The test may be deepened, according to William H. (Bill) Rowe, head of the company. Big Bill Oil Company is a small operating unit largely financed by Texarkana capital.

Triangle Drilling Company and Ruston Drilling Company which recently acquired McDermott 1, SW NE NE Section 28-18-6w, Bienville Parish, Louisiana, from Nichols and associates with the surrounding 5000 acres, bailed down to top of the liner on Saturday, September 20, and encountered nothing. This test had shown one fourble of drilling mud and 10 feet of high gravity oil in a drill stem test in the Nacatosh at 2258 feet several weeks ago. Considerable delay was occasioned by the sale of the test, the rebuilding of the original rig destroyed by wind, and other matters. Six and five-eighths-inch casing had been set at 2174 feet. Check location of the test is 460 feet south and 480 feet west of northeast corner of the section.

The Richland Parish gas field was extended slightly over one mile west on September 16, when Austin and McDonald's Hunt 1, Section 13-17-5e, was completed at total depth of 2431 feet in shale gauging slightly over 61,000,000 cubic feet of gas with 1050 pounds rock pressure. It is one of the largest gas wells ever completed in the Richland field. It checks approximately 25 feet higher than nearest producing gassers and is three miles northwest of the Richland field's discovery well completed November 1, 1926, by Gulf Refining Company on the Rhymes-England tract.

Louisiana Gas & Fuel Company which with Arkansas Natural Gas Corporation has taken over controlling interest in Pittsfield Plantation 1, Section 41-8-10e, Concordia Parish, near the Mississippi River, from A. C. Glassell, who owned 150,000 acres surrounding the test, bailed the test back in as a gasser on Friday, September 19, after re-setting 6⅝-inch casing at 1414 feet. The well is now making 2,000,000 cubic feet of gas daily through quarter-inch choke at total depth of 1453 feet in the Jackson. The well had originally blown in making an estimated gas yield of 5,000,000 to 10,000,000 cubic feet of gas daily with considerable salt water, for which a leaky casing was blamed. Casing originally had been set at 1370 feet. The well was shut in and casing reset. Meantime, Glassell and Louisiana Gas & Fuel Company acquired more than 100,000 acres of leases in Southwest Mississippi across the Mississippi River and drilled two tests, both of which were failures. The gas showing started a geophysical exploration campaign across the entire state of Louisiana, reaching into Mississippi and East Texas, just south of the Angelina-Caldwell flexure. Reports that a trace of oil is appearing with the gas since the well was completed Friday, September 19, were not substantiated by the owners.

Two Tests in Tensas Parish

In Tensas Parish, northwest of Concordia Parish, two tests are under way. Stovall Drilling Company is drilling shale at 1435 feet in Miller 1, Section 18-10-10e, and A. R. Willis is resuming operations in Curry 1, Section 39-11-12, which has been shut down at 2300 feet. Joe Marr and associates are also arranging to go back in Maxwell 1, Section 33-3-8e, Concordia Parish, where eight-inch casing was set at 2000 feet with total depth of 2800 feet, and drill in the test. Glassell has two locations for tests near the Pittsfield Plantation 1.

In the recently opened four-mile southeastern extension of the Zwolle field of Sabine Parish, Louisiana, Pelican Natural Gas Company's Louisiana Long Leaf 4, Section 4-7-11, offsetting the same company's 1300-barrel flowing extension well, bailed dry in the Zwolle chalk rock at 2295 and 2354 feet and is now drilling black shale at 2420 feet.

Lacey Petroleum Company's Tatum 1, Section 26-8-12, which last week extended production a half mile east, is maintaining a flow of 480 barrels daily from the chalk rock in the 2400-foot zone. Zwolle's daily average for Tuesday, September 16, from 38 producers was 5079 barrels, the largest well being Pelican Natural Gas Company's Louisiana Long Leaf 3, Section 4-7-11, which made 1333 barrels for that day.

Get Well at Champagnolle

Champagnolle (Rainbow City), in Union County, Arkansas, after being absent from the new production column for many months, during the last week added a 380-barrel flowing well in Ohio Oil Company's R. Furlough 2, SW NE Section 12-17-14, completed in the Crain sand at 2985 feet. The oil is 29.5 gravity, entirely free from water, something unusual in Champagnolle, and shows but one-tenth of one per cent sand. The new well is in a hitherto undeveloped sector of Champagnolle between the extreme northeast and the southeast tips of the field. The new well four days after its completion was still maintaining a daily flow of 364 barrels, the third day's gauge having been 254 barrels.

A peculiarity of Champagnolle producers has been noted in that just before wells about to go "dead" finally cease to produce the gravity of the oil becomes several degrees lighter and it is regarded as a sure sign that when the gravity of a

well begins to get better the well is certain of ceasing to produce.

Harry I. Morgan and Shreveport-El Dorado Pipe Line Company's Kendricks 2, Section 22-19-11, on the southwest flank of the old Bellevue field, Bossier Parish, Louisiana, completed several weeks ago in the upper Trnity at 1800 feet, later showing up with considerable salt water, later went completely dead but has been revived under pressure and is again making about 50 barrels of oil daily along with about five times that amount of salt water. The formation in which the oil was obtained is extremely faulty. An offset, Kendricks 3, in the same section, tested salt water through drill stem in sand from 1896 to 1899 feet but went several feet deeper and encountered another stratum of sand which showed oil.

A rock pressure of 1875 pounds was recorded on Triangle Drilling Company's third Trinity zone gasser in the Sugar Creek area of Claiborne Parish, Louisiana, Cox Fee 1, Section 6-19-5w, completed as a 35,000,000-foot gasser, having come in from a broken anhydrites formation at total depth of 4310 feet. This same company, six miles due west of Cartersville production in Bossier Parish, abandoned Bolinger 1, Section 36-23-13, at total depth of 3524 feet in shale as a dry hole. Rig has been torn down and moved from Robeline Oil & Gas Company's Will 1, Section 7-8-9w, Natchitoches Parish, a wildcat which had been shut down in rock at 1635 feet for lack of funds. George L. Pace and associates abandoned Clarkson 1, Section 30-12-9w, Red River Parish, several miles east of Bull Bayou production, as a dry hole in a shale formation at total depth of 2906 feet.

Smackover to Have Test Drilled to 4500 Foot Level

Shreveport.—Smackover's first test to the 4500-foot depth which has long been awaited has become a reality. On a block of approximately 3000 acres of leases in SW NW Section 13-16-16, Union County, G. L. Murphy 1 is being spudded in by J. E. Crosbie, Incorporated, of Tulsa, for a long time an operator in Smackover. The acreage was blocked by Crawford and Sebastian of Shreveport. Besides the 4500-foot test another on the same block will be drilled to a depth of 3200 feet. The location is on the west flank of the Smackover field but is three-fourths of a mile from nearest oil production, although gas and oil showings in the 2000-foot zone were encountered in nearby holes.

Smackover is the last major oil area in this territory to be explored for deeper production. Four zones in the 1900-2600-foot horizon of the Nacatosh produced in Smackover in various parts of the field, all being named for the lease on which discovered. The upper Trinity or Glen Rose should be encountered in the 4400-4500-foot level.

That horizon in the Trinity for several years has yielded gas and in two wells oil in the Cotton Valley field of Webster Parish, Louisiana. The Glen Rose in Pine Island, Caddo Parish, also yielded both gas and oil, salt water encroachment later developing.

Within recent months upper Trinity gas has been found in commercial quantities in the Bethany field of Panola County, Texas; in the wildcat Rodessa field of north Caddo Parish, Louisiana; in the Sugar Creek gas field of Claiborne Parish, Louisiana, and on the southwest flank of the old shallow Bellevue field of Bossier Parish, Louisiana, where a recent well also flowed oil. One Trinity horizon oil well was completed several years ago in the Haynesville field of Claiborne Parish, Louisiana, which is still producing but no more were ever completed there in that zone, a well to the west checking low and being abandoned below 5000 feet.

Signs of obtaining pay in the lower Trinity have been secured in Pine Island and Cotton Valley, at the 6100-foot zone in the former and at the 6900-foot level in the latter district.

Jackson Gas Field Gets 30,000,000-Foot Well

JACKSON, Mississippi.—The Jackson gas field's seventeenth gas producer was completed Sunday, September 21, when Gulf Refining Company's City of Jackson 1, NE SE Section 10-5-1e, was completed at total depth of 2460 feet in the Midway chalk rock making an estimated daily gas yield of 30,000,000 cubic feet. Midway shale was topped at 2361 feet and six and five-eighths inch casing was set at around 2374 feet. Surface elevation is 254.6 feet.

Two miles northeast of the Jackson field's discovery well with two failures between, Gulf Refining Company's Crane-Lawrence 1, center of northeast quarter Section 26-6-1e, was completed Saturday, September 20, at total depth of 2450 feet in the chalk rock gauging 10,000,000 cubic feet with 1080 pounds rock pressure. Nine-inch casing was set at 2352 feet. On the same day Pearl River Oil and Gas Company's Pate 1, Section 12-5-1e, was completed in the Midway chalk rock below 2400 feet making an estimated gas yield of 35,000,000 to 40,000,000 cubic feet daily. Midway shale was topped at 2331 feet and 6⅝-inch casing was set at 2400 feet. Surface elevation is 268 feet.

Early in the week Feazel Oil and Gas Company's Millstein 1, Section 2-5-1e, was completed at 2441 feet with seven feet of Midway chalk making 35,000,000 cubic feet of gas. Midway shale was topped at 2324 feet and 6⅝-inch casing was set at 2425 feet.

Love Production Company's Crisler 1, NW SW Section 2-5-1e, was drilling in Sunday, September 21, but was showing much salt water along with some gas and may be a failure. Its elevation is 269 feet and Midway shale was topped at 2373 feet with 6⅝-inch casing set at top of the Midway chalk at a depth of 2468 feet.

Four miles south of Jackson in Hinds County, Dome Oil and Gas Company has abandoned Elton 1, Section 5-4-1e, in hard gray sand at total depth of 2805 feet.

Gulf Refining Company's Rainey A-1, SW NW Section 13-5-1e, Rankin County, which was plugged back to 2501 feet and completed after much trouble as a gas producer after it had previously shown a trace of 13.2 gravity oil and much salt water, went dead and bridged during the week but Sunday, September 21, was revived and is again making at the rate of 15,000,000 cubic feet of gas daily with a spray of salt water. Rock pressure is 600 pounds. This well has been furnishing gas for other drilling operations of the Gulf Refining Company in the Jackson field.

Ohio Oil Company has spudded in its 5000-foot test in Cantrell 1, NE NE Section 16-15s-5e, Clay County. This county is immediately west of wherein are located the two commercial gassers in the Amory gas field, the area opened several years ago as the first commercial gas in Mississippi.

Transfers Gas Franchise

Amory Natural Gas Company which is reported to have bought out the interests of the Amory Petroleum Company in the Amory field, has transferred its Aberdeen, Mississippi, franchise to furnish natural gas to that municipality to the Mississippi Public Service Company, a subsidiary of Southern Natural Gas Corporation, which owns the trunk gas line from Monroe, Louisiana, to Birmingham, Alabama, and Atlanta, Georgia, and other cities of the southeast. Several other surrounding towns' gas franchises held by Amory Natural Gas Company are expected to be transferred to the Mississippi Public Service Company, which recently was chartered in Delaware and has obtained au-

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A heavy, rolled steel girder section forms the basis of Moore Walking Beam strength. It has electrically welded web and flange stiffeners at nose, tail, saddle and intermediate points. The cast steel temper screw bearing support is secured to the beam by both rivets and electric welding. Removable temper screw bearings ordinarily furnished are of babbitted cast iron. Hard wood bearings can be supplied.

There are beams for pumping or cable drilling. Of special interest is the underslung type for pumping service, which is pictured above. With this design the deflection of the polish rod is very slight and even the longer stroke wells can be pumped without special rod hangers. The cable drilling beam has the temper screw bearing on top instead of being underslung.

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thority to transact business in Mississippi from the secretary of state here.

Amory Natural Gas Company is reported planning more development in the Amory district. H. D. Easton, Shreveport geologist, who made locations for the discovery gassers, was in Amory recently to make one or more locations for additional tests. If several more tests are drilled around Amory with the Clay County test underway northeast Mississippi should see considerable drilling during the next several months.

With St. Louis interests which had planned to build a gas line to serve several towns in South Mississippi apparently having failed to consummate their plans for piping gas to these places from the Jackson field, another company known as the Mississippi Industrial Gas Company, to be capitalized at $1,000,000 and to be chartered in Delaware according to E. O. Spencer, agent, he being a stockholder in Love Petroleum Company which owns three of the local gas producers, has secured from the Mississippi Highway Commission authority to lay pipe lines along the state highways of Mississippi. Spencer says a bond issue has been arranged for in New York to lay the lines at a cost of approximately $1,500,000 to these municipalities as soon as franchises are secured. More than 100 miles of line probably of eight or 10 inch size would be required. It is estimated that the line would require 10,000,000 cubic feet daily from the Jackson field, which at present has no outlet. As Louisiana Gas and Fuel Company has gas production here and it is indirectly related to Southern Natural Gas Corporation whose Atlanta-Monroe line passes in this general vicinity it has been hoped that this trunk line might tie into the Jackson field.

A. I. M. E. Tulsa Program

Tulsa.—The American Institute of Mining and Metallurgical Engineers will hold sessions in Tulsa, October 2 and 3. These programs will be in advance of the opening of the International Petroleum Exposition and Congress, October 4. The programs will be in the Hotel Mayo, as follows:

October 2

"Some Principles Governing the Choice of Length and Diameter of Tubing in Oil Wells," by J. Versluys.

"Increasing the Ultimate Recovery of Oil", by S. F. Shaw.

"Bottom Hole Pressures and Pressure Gradients in Flowing Wells", by C. V. Sidwell.

"Control of Edge Water by Repressuring", by W. W. Scott.

"Effect of Edge Water on the Recovery of Oil", by H. H. Wright.

"Effect of Proration on Decline of Potential Production and On Ultimate Recovery", by H. H. Power.

"Characteristics of Mud-laden Fluids", by C. P. Parsons.

"Densities of Oil-gas Columns from Well Data", by W. V. Vietti.

"Development of Casing for Deep Wells", by F. W. Bremmer.

October 3

"An Economic Comparison of Developments in the South Field Oil-producing Region of Mexico", by Oliver B. Knight.

"Progress Report on Foreign Unitization", by E. L. Estabrook.

"Place of Unit Operation on Adjusting United States Petroleum to World Markets", by Joseph E. Pogue.

"Necessity of Unit Operation or Co-operation at Kettleman Hills", by Robert C. Patterson.

"Reviews of Unit Operations in Texas and New Mexico."

"Repressuring and Initial Pressuring", by H. C. George.

News From Rocky Mountain Fields

Suspend Drilling on Hannawalt Test

Craig, Colo.—Midwest Refining Company has suspended drilling on the Hannawalt ranch, nine miles west of here, at 3040 feet with an estimated flow of around 50,000,000 cubic feet of gas. The gas will be piped to Craig for fuel. It is stated that the company has under consideration the building of a refinery at Craig. It has production on the Illes and Moffat domes, about 20 miles from Craig with a pipe line from the field to Craig.

Consolidated Royalty Buys Western Exploration

Casper, Wyo.—Stockholders of Consolidated Royalty Oil Company have approved a plan for taking over the stock of Western Exploration Company with an exchange of one share of Consolidated stock for 2½ shares of Western. The former is a strictly royalty company and the latter has been a development and royalty operator. The former has an authorized capital of $10,000,000. It is planned to enlarge the scope of activity of the new organization which will use the latter as a producing company. Consolidated Royalty Oil Company has paid 52 consecutive quarterly dividends totaling $4,655,650 and the latter has paid 28 consecutive quarterly dividends totaling $415,700. Both companies have been controlled by former Governor B. B. Brooks and the Richardson family.

Garland Test Structure Promising

Byron, Wyo.—Ohio Oil Company has prospects for a good well in its Easton 1, Section 35-56-97, on the Garland structure in Northern Wyoming. The test is drilling with a rotary rig at 4221 feet with the hole full of heavy mud to keep the gas under control. It is stated that the last 100 feet has shown heavy oil and gas saturation. Ohio Oil Company recently proved the Byron structure for oil production with a flowing well of 1000 barrels of black oil.

Independents to Renew Fight for Tariff on Crude

Tulsa.—Activities of the Independent Petroleum Association of America are being focused on another fight for a tariff on foreign oil. Wirt Franklin, president of the organization, has set September 29 for a mass meeting here. This meeting will be for the purpose of further organizing the association in Oklahoma and to plan a program in behalf of the independent element within the petroleum industry.

Recently Mr. Franklin has issued several statements, in which he has charged with the producers of the United States, through proration have reduced the output of oil in the United States, while imports from South America and other foreign countries have failed to scale down in keeping with domestic output.

One paragraph from the statement, prepared along with the call for the Tulsa meeting, reads:

"The independent oil men and the citizens of the State of Oklahoma plan to again present an urgent request for a tariff on oil to Congress at the coming session in December. Recent figures show that the independents have joined the movement to curtail production throughout the United States, but that their efforts have been nullified by the continued importation of crude oil."

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production	Depth	Bbls.
BRADFORD FIELD—			
South Penn Oil Co. Fee 115	2	....	
Bingham 1	4	....	
Niagara Oil Corp. Niagara, 10 wells.	20	....	
Lawton 5	2	....	
Lawton 6	2	....	
White Rabbit Oil Co. Borden 3	7	....	
Curtis Oil Corp., Fennell 3	2	....	
Hawkins Oil Corp. Hawkins 38	2	....	
Hawkins 39	2	....	
Healey Petroleum Corp. Quintruple 47	2	....	
BUTLER COUNTY—			
George Levier, Levier 1	¶1	....	
Bowers, Farlie & Co. Kaylor 1	3	....	
CENTER-MIDDLE FIELD—			
Streich & Sons, lot 73 tr 1	2	....	
J. L. Yerdon, Yerdon 1	3	....	
Cherry Run Oil Co. lot 8 tr 8	¶1	....	
CLARION-VENANGO COUNTIES—			
F. C. Deemer, Imherten 29	2	....	
Imherten 30	2	....	
Oil City National Bank, Wright 52	2	....	
South Penn Oil Co. Noyes 25	2	....	
Noyes 26	2	....	
G. P. Myers, Myers 23	*	....	
Thomas McLaughlin, McLaughlin 24	2	....	
C. F. Hitchcock, Nicklin 50	2	....	
Hess & Master, Hecter 2	3	....	
Braunschweiger & Co. McFadden 19	2	....	
Oil City Trust Co. McBierney 91	2	....	

NEW YORK

ALLEGANY COUNTY—			
J. M. McDivitt & Co. McDivitt 21	2	....	
F. W. Stephan & Co. Kurtzholtz 8	2	....	
Forest Oil Co. Forest, (2 wells)	4	....	
C. M. Lippert, Lippert 17	4	....	
Polley Bros. O'Brien 2	2	....	

SOUTHEASTERN OHIO

MORGAN COUNTY—			
Ohio Fuel Gas Co., McInturf 1	¶¼		1672
WASHINGTON COUNTY—			
Chesmar Oil & Gas Co. Crowey 1	¶¼		1350
Swingle, Barnhar & Co. Hickman 4	*		900
Tucker & Co. Reynolds 6	*		659

CENTRAL OHIO

MEDINA COUNTY—			
Oko Oil & Gas Co. Essig 40	20		394
Brinker 28	100		332
J. R. Kommer, Kruggle 6	8		540
ASHLAND COUNTY—			
Robinson Oil Co. Sheriff 1	*		683
Blair & Co. Smith 1	*		632
Ohio Fuel Gas Co. Bauman 1	*		....
Welch 1	¶7		....
Moffett 1	¶2½		....
ATHENS COUNTY—			
Carpenter & Glaizer, Curtis 11	1		175
Nuzum & Co. Halbert 2	¶½		543
Ohio Fuel Gas Co. Day 1	*		1253
J. Fleming 4	¶½		1352
F. Fleming 3	¶½		1653
COSHOCTON COUNTY—			
Ohio Fuel Gas Co. Thompson 1, ¼ MG &	1		3567
McClay Bros. Ashcraft 2	¶¼		3123
Ohio Fuel Gas Co. Doup 2	¶1¼		....
LICKING COUNTY—			
McClay Bros. Porter 2	95		2998
VINTON COUNTY—			
Hope Construction & Refg Co. Bass 1	5		1177
CUYAHOGA COUNTY—			
Ohio Fuel Gas Co., Rose 1	¶¼		....
HOLMES COUNTY—			
Ohio Fuel Gas Co. Alexander 3	¶¼		....
WAYNE COUNTY—			
Hulse & Kundtz, Lewis 1	¶¼		3077
SUMMITT COUNTY—			
East Ohio Gas Co., Povlacs 1	¶1		4152
STARK COUNTY—			
East Ohio Gas Co. Alexander 1	¶¼		4558
MUSKINGUM COUNTY—			
A. B. Colgan & Co Combs 1	*		3468

NORTHWESTERN OHIO

HANCOCK COUNTY—			
Robert Mitchell, Trustee, Moore 3	20		1405

Tabulation and Comparison on Page 56

Company, Well and Location	Initial Production	Depth	Bbls.
WOOD COUNTY—			
Chidester, Baldwin & Co. Noble 10	4		1490
WYANDOT COUNTY—			
Newcomer & Co., Feeley 1	¶½		1405

INDIANA

SULLIVAN COUNTY—			
Thomas & Ellis, Martz 1	¶¼		600
G. G. Billman & Co. Connor 1	¶¼		600
PIKE COUNTY—			
William Bell & Co. Fred Lindy 4	*		1790

ILLINOIS

WABASH COUNTY—			
Robinson Oil Co. Robinson 3	12		1507
RANDOLPH COUNTY—			
Beck & Bittler, Schreiber 1	*		1788

KENTUCKY

OHIO COUNTY—			
James C. Ellis & Co. Crowe 7	¶¼		....
H. L. Ogle & Co. Whitley 2	¶½		....
Wood Oil Co. Barrett 2	¶½		....
James C. Ellis & Co. Bellamy 1	*		825
DAVIESS COUNTY—			
New Domain Oil & Gas Co. Ward 5.	40		....
Eastern Gulf Oil Co. Chapman 7	10		....
Hupp, Duff & Co. Sparks 3	5		....
Young, Goldberg & Co. Purcell 15	*		....
HANCOCK COUNTY—			
Armistead Oil Co. Emerick 1	*		801
Dug T Bolling, Richards 1	35		....
WARREN COUNTY—			
P. H. Lavelle, Hurt 1	*		1200
PIKE COUNTY—			
United Carbon Co. Cowpens 1	¶¼		....
McLEAN COUNTY—			
James C. Ellis & Co. Salmon 1	10		1406

MICHIGAN

ISABELLA COUNTY—			
Gordon Oil Co. Merihew 1	250		....
Mellon-Pollock Oil Co. Crowley 1	250		....
Ohio Producing & Ref. Co., Epple 1	200		....
Gibson-Johnson-Borden Inc. Cole 2	200		....
Arthur & Mecer, Roberts 1	125		....

WEST VIRGINIA

KANAWHA COUNTY—			
The Pure Oil Co. Williams Coal 252.	8		3189
Williams Coal 253	15		3227
G. L. Cabot Inc., Quincy Coal 21	¶¼		2260
Island Gas Co. Scott-Smith 1	¶¼		1641
LINCOLN COUNTY—			
Allegheny Gas Corp. Lucas 1	¶¼		1623
Conley Gas Co. Adkins 1	¶¼		2550
L. R. Sweetland, Reynolds 1	¶¼		2229
United Fuel Gas Co. Dotson 1	¶¼		2301
CALHOUN COUNTY—			
F. F. McIntosh, Hamilton-Hunt 2	¶¼		1985
M. F. Crowley, Deems 1	1		1618
MINGO COUNTY—			
United Fuel Gas Co. Wilcox 4265	¶¼		3417
Wm. P. Floyd, Messer 2	28		1060
BOONE COUNTY—			
The Pure Oil Co. Lafollett & Co. 41	10		2960
Southern Gas Co. Miller 3	¶¼		1733
MASON COUNTY—			
Berea Oil & Gas Co. Newton 1	¶¼		....
Newton 2	1		....
MARION COUNTY—			
Owens-Illinois Bottle Co. Toothman 2	¶¼		2987
Philadelphia Nat. Gas Co. Snyder 1	*		3652
WAYNE COUNTY—			
C. C. Wolfe, Adkins 1	¶1		3080
Ohio Southern Gas Co. Endicott 1	¶½		2538
WETZEL COUNTY—			
Manufacturers Light & Heat Co. Pethel 3438	¶1¼		2554
D. W. Null & Co. Snodgrass 2	¶1		3325
CLAY COUNTY—			
Virginian Gasoline & Oil Co. Brown-Swan 4270	75		1977
JACKSON COUNTY—			
South Penn Oil Co. McCarty 13	10		....
CABELL COUNTY—			
Hamilton Gas Co. Markin F-13	¶1		3800
MONONGALIA COUNTY—			
Pittsburg-West Virginia Gas Co. Bean 5385	¶¼		3655

CALIFORNIA

LONG BEACH—			
Dayton Oil Co., Burns 1	100		7040
Hancock Oil Co., No. 20	175		5930
ROUND MOUNTAIN—			
Shell Oil Co., Jewett 3-4	400		1865
SANTA FE SPRINGS—			
The Texas Co., Foix 7	150		8000
SANTA BARBARA MESA—			
Valmont Oil Co., Birdie-Cline 1	200		2120
PLAYA DEL REY—			
Allied Pet. Co., No. 1	1800		6130
El Camino Oil Co., Venice 1	400		6120
A. T. Jergins, Capp 1	350		4401
Thomas Kelly & Sons, Kelly-Frazier 1	400		4315
Mohawk Oil Co., No. 1	325		5730
Mutual Oil Co., No. 1	600		6175
VENTURA—			
Shell Oil Co., Taylor 57	600		4210

OKLAHOMA

CADDO COUNTY—			
Magnolia Pet. Co., Niles 8, sw nw nw 36-6n-10w	690		3384
Magnolia Pet. Co., Niles 9, ne c nw 36-6n-10w	30		2723
Lindsey 8, ne nw se 36-6n-10w	30		3235
Lindsey 9, nw ne se 36-6n-10w	465		3377
J. B. Nichols, Rigney 1, se c nw 12-5-9w	*		3347
CARTER COUNTY—			
K W B Drilling Co., Noble 1, sw nw se 14-2s-2w	¶¼		400
Carter Oil Co., Franklin 1, ne nw ne 24-1s-3w	910		2158
Wirt Franklin Pet. Corp., Spigner 2, nw c 24-1s-3w	550		2285
E. S. Lambet al, Worhsam 1, sw c sw c nw sw ne 25-4s-3w	*		2087
CHEROKEE COUNTY—			
Savoy Oil Co., Moore 1, sw ne sw 21-18-20e	*		1078
COTTON COUNTY—			
Harris & McNeal, Mudd 1, se c ne ne se 10-2s-10w	*		2750
Smith 1, nw c se 34-1s-10w	*		2212
CREEK COUNTY—			
Skelly Oil Co., Replogle 2, nw se sw 10-15-8e	¶3		3178
McCulloch Oil Co. et al, Bible 1, nw c sw 21-19-9e	30		2186
Westfall Drilling Co., Nave 1, se c nw 1-18-8e	*		3158
GARFIELD COUNTY—			
Continental Oil Co., Meisner 1, se sw nw 10-20-4w	380		5934
Shell Pet. Corp., et al, Loomis 1, c nw nw 32-23-4w	*		6277
GRADY COUNTY—			
Meridian Gas Co., Brown 1, csl nw nw 31-4-7w	¶12		2200
KAY COUNTY—			
Martin et al, Garrett 1, ne sw se 31-27-2e	*		680
LINCOLN COUNTY—			
Magnolia Pet. Co., Winship 1, ne c sw 2-13-4e	*		6277
Mid-Okla. Oil Co., Stufflebeam 1, ne c sw 28-17-2e	*		4940
MARSHALL COUNTY—			
J. C. Doss et al, McComas 1, sw c se se nw 13-5s-5e	*		756
R. L. Keener et al, Monday 1, sw c ne 4-6s-6e	*		845
MUSKOGEE COUNTY—			
J. R. Graves et al, Davis 1, se c ne 14-13-16e	¶5		2146
Berry et al, Taylor 1, c ne nw 32-12-19e	*		950
J. L. Haner, Stedham 9, ne c se se 8-15-18e	*		1029
NOBLE COUNTY—			
K. D. Oil Co., White 4, c n½n½ se, 1-22-2w	*		5757

Company, Well and Location	Initial Production Depth	Bbls.
OKFUSKEE COUNTY—		
Kessler Pet. Co., Calloway 1a, cwl ne sw 3-11-12e	*	3738
OKLAHOMA COUNTY—		
Sinclair, Vencl 16, se c 31-11-2w	39293	6602
Vencl 15, sw se se 31-11-2w	39777	6572
I.T.I.O. Johnson 8, sw se nw 25-11-3w	882	6571
Coline Oil Co., Clauer 16, se nw se 25-11-3w	903	6487
I.T.I.O. Spellman 4, nw c se 14-11-3w	10307	6515
Cromwell-Franklin Oil Co., Trosper Park 27, se sw sw 12-11-3w	14799	6390
I.T.I.O. Trosper 1, ne c se 11-11-3w	4610	6523
Tom Slick Oil Co., Classen 2, nw nw 2-11-3w	22370	6586
Champlin O&R, McCulip 1, ne nw ne 2-11-3w	6985	6500
Jones Drilling Co., Sullivan 1, se c sw nw sw 1-11-3w	13060	6490
I.T.I.O., Jones 3, sw se sw 1-11-3w	18070	6446
Wirt Franklin Pet. Corp., Page 2, sw c se 35-12-3w	5715	6500
OSAGE COUNTY—		
McCune, Wormser et al, 14, se c nw 15-24-8e	20	2682
Sidwell Drilling Co., 2, nw ne ne 35-24-8e(owdd)	5	2455
Atlantic 8, se sw sw 19-25-8e	*	2486
Carter Oil Co., 12, c sw se 28-25-9e	*	2390
PAWNEE COUNTY—		
Wasson et al, Wrightsman 1a, ne c 8-20-8e	*	3005
PAYNE COUNTY—		
Magnolia, Payne 7, ne c 6-17-4e	75	4228
PONTOTOC COUNTY—		
Reiter-Foster Oil Corp., Hightower 1, nw c 5-4n-8e	*	2785
SEMINOLE COUNTY—		
The Texas Co., Diana 2, sw nw ne 23-5-7e	*	4330
Burke-Greis Oil Co., Nitchey 6, nw ne se 18-5-8e	*	4191
STEPHENS COUNTY—		
Carter Oil Co., McDonald 1, ne c nw 28-2s-7w	12	1690
WOODWARD COUNTY—		
Burgoyne Bros., Merklin 1, sw se ne 15-21-9w	*	1910

KANSAS

BUTLER COUNTY—		
National Refining Co., Hedderman 1, sw c ne, 24-28-5e	*	2803
COWLEY COUNTY—		
McNabb et al, Johnson 2 "C", nw sw nw 28-33-3e	*	3297
Mission Oil Co., Semans 1, c se se 17-31-6e	*	2221
MARION COUNTY—		
Palmer & Nixen, Robinson 1, sw c nw, 15-20-5e	¶1½	2120
McPHERSON COUNTY—		
Gypsy Oil Co., Kinney 1, (owdd) ne nw sw 34-20-3w	*	3502
W. C. McBride, Inc., Becker 1, sw c 36-20-2w	*	3608
MORTON COUNTY—		
Argus Prod. Co., Sullivan 1, c nw 29-34-39w	¶3	2750
Erhordt 1, c nw 28-34-39w	¶8	2750
RICE COUNTY—		
Aladdin Petroleum Co., Burkhart 1, nw c ne, 28-20-10w	*	3320
STAFFORD COUNTY—		
Boucher et al, Leydig 1, nw c, 22-22-11w	*	3630
STEVENS COUNTY—		
Argus Prod. Co., Erhardt 1, c nw 11-35-39w	¶14	2798
Argus Prod. Co., Mitchell 1, c nw 18-35-37w	¶9	2807
Irwin 1, c se 10-35-37w	¶7	2832
West 1, c ne 31-34-38w	¶2¼	2809
Harrison 1, c sw 30-34-37w	¶3	2807
Kneir 1, c sw 27-34-37w	¶3	2815
Hershey 1, c nw 26-34-37w	¶6	2805
SUMNER COUNTY—		
W. K. Mann et al, Herrick 1, sw c nw sw se 25-31-2e	55	1880
Gypsy Oil Co., Sturm 1, c n1 nw sw 23-34-2w	*	4550
WOODSON COUNTY—		
Empire O&R and Skelly, Lawton 1, ne c nw 29-24-14e	*	1720

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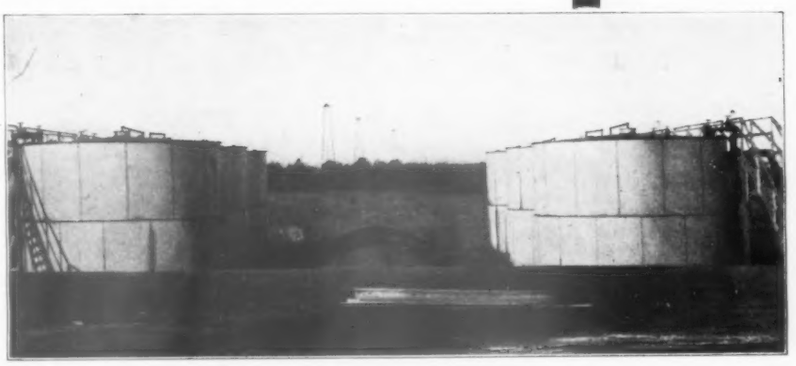

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MALONEY ALONE

ARKANSAS

Company, Well and Location	Depth	Initial Production Bbls.
OUACHITA COUNTY (Smackover)—		
Wilson & Chapman, J. T. Arnold A-1, 24-15-16	25	2064
UNION COUNTY (Smackover)—		
Standard Oil Co of La., Hardy-Murphy 5, 4-16-15, (sec. comp.)	34	2285
UNION COUNTY (Champagnolle)—		
Ohio Oil Co., R. Furlough 2, 12-17-14	380	2985

LOUISIANA

NORTH LOUISIANA

Company, Well and Location	Depth	Initial Production Bbls.
BOSSIER PARISH—		
Woodley et al, Roberson 1, 22-23-12	*	1500
Louisiana G&F Co., Thigpen & Herold 8, 13-17-12	¶8	1764
Woodley Pet. Co., Schuler 4, 13-17-12	¶5	1782
LA SALLE PARISH—		
O. W. Clark, Russell B-2, 25-10-1e.	15	1526
Montague Oil Co., Zenoria Lbr. Co. 8, 10-9-1e	50	1510
MOREHOUSE PARISH—		
Ouachita Nat. Gas Co., Sandidge 6, 23-20-4e	¶4	2154
OUACHITA PARISH—		
Magnolia Pet. Co., Breard 1, 15-18-4e	¶4½	2210
RICHLAND PARISH—		
United Carbon Co., Noble 1, 37-15-6e	¶37½	2450
Northern La. Nat. Gas Co., McKay 1, 22-16-6e	¶37	2450
Richland Prod. Co., M. L. McCoy 3, 29-16-6e	¶9¼	2450
Southern Carbon Co., Sartor 6, 24-16-5e	¶34½	2440
SABINE PARISH (Zwolle)—		
Loring Oil Co., Bowman-Hicks 10, 33-8-12	10	2664
Ohio Oil Co., Bowman-Hicks 5, 33-8-12	10	2684
UNION PARISH—		
Nemours Corp., Hollis 1, 15-21-3e.	¶2½	2190
WEBSTER PARISH (Sarepta)—		
Jimmie Liggett, Slack 1, 36-23-11.	30	2739
Magnolia Pet. Co., Sallie Coyle 2, 2-22-11	45	2712
Southern Prod. Co., Slack 4, 1-22-11	20	2745

SOUTH LOUISIANA

Company, Well and Location	Depth	Initial Production Bbls.
BAYOU CHOCTAU—		
Texas Gulf Sulphur Co., Wilbert 1, 53-9s-11e	*	1820
BLACK BAYOU—		
Freeport Sulphur Co., Yount-Lee 3	*	1225
EVANGELINE—		
Heywood & Heywood, J. F. S. 1	250	1975
JEFFERSON ISLAND—		
Jefferson Lake Oil Co., Lake Peigneur 10	*	1000
NEW IBERIA—		
Lake Oil Co., Ben White 1, 54-12s-7e	*	2755
PORT BARRE—		
Gulf, Hoskins A-3	135	3390
VERMILION BAY—		
The Texas Co., State Vermilion Bay 5	*	6525
VINTON—		
Vinton Pet. Co., Gray 9	2500	3425
Wilson & Gross, Fee 4	2500	3625

TEXAS

TEXAS GULF COAST

Company, Well and Location	Depth	Initial Production Bbls.
BARBERS HILL—		
Mills Bennett, Gulf-Higgins 4	250	5285
Yount-Lee, Chambers 15	350	4715
BATSON—		
Ada Belle Oil Co., Sun 142	30	1175
CLAY CREEK—		
Sun Oil Co., Carraway 4	900	2170
HUMBLE—		
Sun Oil Co., Bender 11	875	4359
Bender 13	1000	4588
NORTH DAYTON—		
Harrison Oil Co., Quintette 1, wo.	1500	4515
PETTUS—		
Union Producing Co., Ray 20	300	3950
Houston Oil Co., Newman 2	75	3699
Swift et al, Mauldin 1, Grayburg pool	*	875
REFUGIO—		
Houston Oil Co., Strauch 1, Blk 20 (wild well)	*	5467
SARATOGA—		
Rio Bravo Oil Co., Fee 94-A	3	485
SOUTH LIBERTY—		
Empire, O'Brien 13	*	4596
SPINDLE TOP—		
Yount-Lee McFadden 139	280	5701

TEXAS PANHANDLE

Company, Well and Location	Depth	Initial Production Bbls.
GRAY COUNTY—		
Dunlop, Morse 5	275	2551
Magnolia Pet. Co., Cubine 1	*	2775
British American & Shell, Smith 2	220	3208
HUTCHINSON COUNTY—		
Phillips Pet. Co., C. R. Garner et al 2	75	3197
Texas Int. P. L. Co., J. Q. Bost.	¶45	2700
MOORE COUNTY—		
Delmar Oil Co., C. R. Jones 1	*	3010
Shamrock Oil & Gas Co., R. O. C. Brumley	45	3445
POTTER COUNTY—		
Canadian River G. Co., Lee Bivens 13 "A"	¶4	3470
WHEELER COUNTY—		
Davis et al, Stuckey 1	¶38	1895
Lone Star Gas Co., Brown 2	¶49.7	1748
Murchison & Fain, Harvey 1	72.4	1800

NORTH TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
ARCHER COUNTY—		
Hedrick-Camp D. Co., Webb 1	*	755
Junker and Perkins, Richardson 1.	*	1211
Silk & Chenault, Andrews 1	*	1160
COOKE COUNTY—		
Deep Rock Oil Co., Lawson 1	100	1331
GRAYSON COUNTY—		
Tucker and Rosson, Handy 1 and M. P. Bank	*	1550
WICHITA COUNTY—		
Ark. F. O. Co., Kemp and Kempner 39	63	1766
Douglas Prod. Co., Fee 2	*	1050
John O'Neil, Honaker 4	*	852
Schlaffke & Blair, Honaker 2	46	857
WILBARGER COUNTY—		
Lewis Prod. Co., Waggoner 11	35	1766

WEST CENTRAL TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
BROWN COUNTY—		
Humble O. & R. Co. (Blake), Armstrong 24	25	1225
CALLAHAN COUNTY—		
Perry et al (Gen'l), Wheeler 1	*	1025
COLEMAN COUNTY—		
Mitchell and Groves Unit Oper., Morris 1	*	2802
Jake L. Hamon, Wells 1	¶2	2278
Jamison, Pollard & Forster, Kingsberry 1	14	1365
Windsor et al, McClatchey 1 "A".	*	1093
EASTLAND COUNTY—		
Lobaugh & Holden, Buzen Hrs. 1.	*	1694
JOHNSON COUNTY—		
T. G. Shaw Oil Corp., Wilkinson 1	*	1435
YOUNG COUNTY—		
Gilliland and Rosser, Marrs 1	*	876
P. B. Goodwin, Morgan 1	*	1204
W. H. Hamon, Bullock et al 1	*	966
Independent O. & G. Co., Larimore 13	400	723
O. Julian and Stripling, Larimore 9	*	941
S. G. McClintock, Bishop 1	*	1216
McKena & Texas Co., Kasterson 1	*	852
Painter & Knox, Groves 1	*	970
Panhandle Refg. Co., Watson 6	70	670
Willis & Terrell, Rux 2	*	528
Wooten & Reed, Robinson 1	*	752
Bradstreet et al (Gulf Sub-lease 11858), Hinson 1	*	3850
SHACKELFORD COUNTY—		
Beatty et al, Walker 1	*	1988
Texas Co., Mathews 1 "B"	*	1250
STEPHENS COUNTY—		
J. R. Eidson, Flourney 1	*	2050
Texas Co., Parks 42 "A"	¶1-50	3229
PALO PINTO COUNTY—		
T. P. Coal & Oil Co., Fee 2	¶3½	2988

WEST TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
HOWARD COUNTY—		
Merrick & Lamb, H. R. Clay 15	17	1915
CRANE COUNTY—		
Church & Fields, University-Collett 3	300	....
Tidal Oil Co., University 3 "C"	237	3092
WARD COUNTY—		
Atlantic O. P. Co., Reynolds & Miller 1	*	2501
WINKLER COUNTY—		
Prairie O. & G. Co., T. C. Hendrick	650	2967 (1 hour)
Atlantic O. P. Co., Lum Daugherty 1	1760	3081

CENTRAL EAST TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
VAN ZANDT COUNTY—		
The Pure Oil Co., W. F. Swain 1.	93	2931
Van School Lot 2	120	2953
R. A. Howell 1	100	2961
O. L. Swain 1	68	2847
R. L. Wells 10	120	2928
The Texas Co., R. V. White 2	88	2930

NEW MEXICO

Company, Well and Location	Depth	Initial Production Bbls.
HOBBS—		
Atlantic Oil Prod. Co., State 1	¶1.7-3499	4204
Continental Oil Co., State 1-B	2211	4183
Empire Oil Co., Hardin 1	¶10-11,340	4209
Landreth Prod. Co., State 2-B	¶57.7-3758	4179
Shell Pet. Corp., Berry 1	¶2¼-2851	4195
McKinley 4	¶17-9907	4200
McKinley 7	¶7-7340	4210
Tidal Oil Co., Crimes 2	¶2-1814	4176

— — — — — — — — — CUT OUT AND MAIL — — — — — — — — —

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WILDCATS FROM ALL SECTIONS

WEST TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
ECTOR COUNTY—		
Southern Crude O. P. Co., Cowden 1	256	4244
PECOS COUNTY—		
Indep. O&G Co. et al, McDonald 4	*	2195
LOVING COUNTY—		
Henshaw et al, G. B. Russell 2	14	4360
WARD COUNTY—		
Bradford et al, M. B. Murry 1	20	2212

ANDREWS COUNTY—Deep Rock Oil Co. et al, W. J. Mathis 1, elev 3193 ft, top salt 1730 ft, flowing 10 barrels oil with tubing, td 5088 ft. Fuhrman Pet. Corp., W. T. Ford 1, elev 3186 ft, making 30 mil cu ft wet gas; no change reported. Martin-Maer & Kell, Meadore 1, elev 3286 ft, top salt 1705 ft, sd 4501 ft.

BREWSTER COUNTY—Trans-Pecos O&G Co., Jones 1, elev 3073 ft, sd 2510 ft.

COKE COUNTY—Arkansas Fuel Oil Co., Dixie Oil Co., Stepp 1, ur 4315 ft, 6⅝ csg; salt water encountered 4220 ft.

CONCHO COUNTY—W. C. Beasly et al, Sam Waring 1, spudded and sd. A. W. Turner et al, Brosig 1, sd hfw 1550 ft.

CRANE COUNTY—Cranfill Bros. Oil Co., J. T. Muir 1, dr 1346 ft. Cranfill Bros. and Gulf Prod. Co., Tubbs 1, elev 2526 ft, top salt 505 ft, top white lime 2445 ft, td 4108 ft.

CROCKETT COUNTY—Magnolia Pet. Co., A. C. Hoover 2, top salt 865 ft, sd 1850 ft; salt water. McMan O&G Co., Amerada Pet. Co., Powell 2, top salt 1005 ft, dr 2305 ft.

CULBERSON COUNTY — Grisham-Hunter Corp., W. D. Garren 2, elev 4325 ft, top Delaware 1273 ft, sd 1520 ft. W. L. Kornrumpf et al, Garren 1, sd 985 ft.

ECTOR COUNTY—H. F. Wurts et al, Ibberson 1, elev 2840 ft, top salt 865 ft, sidetracked old hole, td new hole 1500 ft, fsh. Amerada-Skelly, University 4 "B", ru.

EDWARDS COUNTY — Phillips Pet. Co., Holman 2, dr 5455 ft.

FISHER COUNTY—Cranfill-Reynolds Co., Flannigan 2, elev 1794 ft, sd after shot 3092-3109 ft; Willingham 3, dr 465 ft.

GLASSCOCK COUNTY—Ed Timberlake et al, Meek 1, elev 2575 ft, top lime 2670 ft, sd 2956 ft, litigation. World Oil Co., McDowell 3-C, elev 2537 ft, sd 660 ft.

TOM GREEN COUNTY—Balding & Dutton, Norsworthy 1, co 450 ft. Mintex Oil Co., Campbell 1, sd 1507 ft. Phillips Pet. Co., et al, Jennings-Gulden 1, dr 3525 ft. D. W. Wiley et al, Ed Maer 1, sd 815 ft.

HOWARD COUNTY — Greene Prod. Co., Getty Pet. Corp., Denman 1, dr 1980 ft, 6⅝ csg set at 1980 ft, cem 100 sacks. Snyder 1, dr 830 ft shale. Meriwether Oil Co., Smith 1, elev 2590 ft, top lime 3010 ft, plugged and abn.

HUDSPETH COUNTY—Geo. R. Thieson et al, University 1, 35 ft, spd with water well mach, sd.

IRION COUNTY—Burton et al, Nutt 1, lcn. J. E. Bristow et al, Nutt 1, sd 1465 ft to test, hfo. Central Oil Co., Nutt 1, lcn. W. H. Williams 1, sd 100 ft. P. H. Williams et al, Ashe 1, sd 8900 ft; Noelke 1, dr 1465 ft in lime.

JONES COUNTY—G. R. Pope et al, Swann 1, dr 510 ft. McBest et al, Roberts 1, sp and sd.

LOVING COUNTY—Arkansas Fuel Oil Co., W. W. Dean 1, dr 400 ft in shale. California Company, Reagan 2, elev 2686 ft, top salt 735 ft, testing oil and water at 4218-21 ft; Reagan 3, elev 2687 ft, top salt 726 ft, dr 3875 ft., anhydrite jarring on tools; Reagan 4, elev 2738 ft, top salt 790 ft, dr 4140 ft, running 7-inch csg. A. R. Eppenhauer Drlg. Co. et al, Allen 1, hole junked at 215 ft, skidded 20 ft nw, now drlg at 200 ft in gyp. Miller, Burge and Healy, Chapman 1, top salt 750 ft, dr in lime 2915 ft. Joe Rush et al, Wheat 1, top salt 785 ft, dr 4100 ft. Lee O. White et al, Russell 1, top salt 750 ft, dr 3990 ft in salt. Made 557 bbls in 24 hrs Sept. 18, and 491 bbls oil in 24 hrs on Sept. 19.

MENARD COUNTY—W. C. Barnett et al, Callan 3, elev 2077 ft, sd 1255 ft, hfw; Callan 4, machine. L. G. Priest et al, J. P. Sorrells 1, elev 2279 ft, sd 2520 ft.

MIDLAND COUNTY—Kerwin and Nordon Oil Co., Mathena 1, sp and sd.

PECOS COUNTY—Barnes et al, Sanford 1, elev 2518 ft, dr 1368 ft, hfo, 1 head in 2 hrs. E. L. Chapman et al, Streety 1, elev 2653 ft, sd 220 ft. Crosby Prod. and Royalty Co., Cordova 1, set 6⅝ csg 2151 ft, dr 2280 ft. Curry and Eakins Pecos Valley 1, td 1629 ft, tp 1577, flowing 45 bbls oil. C. L. Dittman et al, H. J. Eaton 2, lcn; Eaton (Sec. 37) 1, lcn; T. S. Jackson 1, lcn. Himble O&R Co., Kokernot 1, elev 3595 ft, top blk lime 4153 ft, dr in gray lime 4515 ft, 10-inch csg set at 2728 ft. Mrs. C. L. Thompson 1-B, dr 1410 ft, sulphur water from 1310 ft. Magnolia Pet. Co., Byrne 1, td 1115 ft, fsh. Messenger et al, Butz 1, sd 740 ft; Byrne 2, dr 1392 ft. J. R. Miller et al, Bennett 1, sd 1230 ft, will deepen. Oregon Oil Co. et al, Yates 2, elev 2565 ft, top salt 710 ft, sd hfw 2440 ft. O. J. Perren et al, Eaton 2, show oil 1566-68 ft, sd 1724 ft. Pure Oil Co., Harrison 1, elev 3495 ft, dr 2095 ft, pulling on csg. Rio Grande Oil Co., Webb 1, dr 775 ft. W. D. Riser & White, Riser 1, sd 405 ft. Sides and Cloyds, Blackstone-Slaughter 1, sd 2330 ft, dr up bailer. N. E. Tanner and Carl Cromwell, University 1, pb from hfw 2150 ft for shot. Williams and Moran, R. G. Heiner 1, sp.

PRESIDIO COUNTY—Brite Prod. Co., L. C. Brite 4, elev 4536 ft, sd 3129 ft.

REAGAN COUNTY — Big Lake Oil Co., University 1-C, dr 8363 ft in shale, csg at 7857 with 5-3/16-inch; University 5-C, cem 13⅜ csg 3030 ft; University 179, cem cave 4003 ft, now drlg out cement. Group Number One Oil Co. (Texon) University 4-B, dr 2434 ft.

REEVES COUNTY — Biggs and Smith, Cherokee et al 1, spd and sd at 85 ft. California Co., Kloh 1, elev 2798 ft, cem back from 3616 to 3577 ft, sd 4415 ft. May and Milton, J. B. Ellis 1, sd 1410 ft. Salisbury and Gregory, Bell 1, sd 370 ft. Lee O. White et al, Mrs. Lizzie Hersheusen 1, elev 3244 ft, top salt 2670 ft, sd 4415 ft.

RUNNELS COUNTY — Boyce and Lamar, Langs 1, elev 1844 ft. Chas. Dutton et al, G. W. Dean 1, sd 1330 ft.

SCHLEICHER COUNTY—Delmar Oil Co., O'Harrow 1, elev 2421 ft, sd 5472 ft. Phillips Pet. Co. et al, J. A. Witten 1, elev 2333 ft, pb from 6680 to shoot again at 4915-25 ft. Munger-Wilson Oil Co., Page 1, elev 2270 ft, sd 5027 ft for rig repairs. Paul Teas and Walter Gant, Allison 1, sd 3837 ft. J. D. Weener et al, R. E. Ratcliff 1, sd 750 ft. Westyde and Moody Corp., C. L. Meador 1, lcn.

SCURRY COUNTY — J. G. Armand and Camp Springs O&R Co., Strayhorn 1, ur 750 ft, 8¼-inch csg; Quinn 1-A, elev 2316 ft, plugging back from 4373 ft. D. H. Byrd and H. A. Harmon, Murphy 1, elev 2298 ft, top salt 775 ft, top pay 1750 ft, fsh at 3501 ft., estimated 10 bbls oil on pump. R. B. Pender O&G Co., Davis 1, elev 2208 ft, top salt 445 ft, sd 4970 ft, 6⅝ csg. J. B. Mims et al, S. Koonsman 1, spd and sd.

STERLING COUNTY—W. C. Beasley et al, W. L. Foster 1, spudded, rig on ground.

TAYLOR COUNTY — W. G. Clark and Humble O&R Co., Kendall 1, sd 2545 ft, will abandon. Eastland Oil Co. et al, Hunter 1, ur csg after swab 190 bbls at 2380-89 ft, deepened to 2407 ft, encountered water, will plug back to 2385 and pump. Gibson-Johnson et al, Bingham 1, sd 2501 ft. H. B. Herring-Hucony Gas Co. et al, Richie 1, sd 2235 ft. J. B. Jameson et al, Webb 1, elev 1905 ft, dr 6165 ft. Sanger et al, Abilene Fee 1, rig. Sanger O&R Co., Osborn 1, dr 220 ft.

TERRELL COUNTY—Big Bend Oil Co. et al, Bassett 1, sd 2180 ft, litigation. Mid-Kansas O&G Co., Goode 1, elev 2405 ft, fsh 5229 ft.

VAL VERDE COUNTY—Q. O. Owens et al, M. Y. J. Mills 1, elev 2130 ft, straightening crooked hole at 6760 ft. Phantom Oil Co., Ingram 1, sd 3035 ft.

UPTON COUNTY—Gulf Prod. Co., King 1, rig. Penn Oil Co., and Shell Pet. Corp., T. M. Anderson 1, dr 150 ft. Eppenauer Drlg. Co., W. A. Chaney 4, lcn. Eppenauer Drilling Co. A. Ott 1, lcn.

WARD COUNTY—Atlantic Oil Prod. Co., E. W. Thomas 1, top salt 2244 ft, showing oil and gas, took 25th core at 2488-92 ft, shot at 2607 ft, flowing 10 bbls oil and 5 bbls water. Atlantic & Penn Oil Co., Bennett 1-B, elev 2578 ft, top salt 2075 ft, flowing 10 bbls oil and 5 bbls water thru tubing at 2550-2607 ft. Gulf Prod. Co., Hutchings 4, elev 2639 ft, show oil 2480 ft, flowed 60 bbls oil in 20 hrs, Sept. 21; Hutchings 5, elev 2679 ft, top salt 1205 ft, flowed 200 bbls oil and 1 mil cu ft gas Sept. 21, td 2640 ft; O'Brien 13, dr 2050 ft; O'Brien 14, top salt 932 ft, flowed 100 bbls oil in 12 hrs. Sept. 21 at 2200 ft. Magnolia Pet. Co., Sealy 1, dr 1854 ft, sw 1815-35 ft. R. F. Owen et al, Johnson 1, sd 1205 ft. Sid Richardson et al, O'Brien 4, elev 2655 ft, top salt 1136 ft, dr 2771 ft. Shipley Oil Co., Monroe 1-A, elev 2655 ft, top salt 2485 ft, sd 2520 ft. Texas-Pacific Coal & Oil Co., M. Barker 1, dr 1010 ft, red rock. California-Atlantic O. P. Co., Lanham 1, lcn.

WINKLER COUNTY — Champion-Winkler Corp. (W. H. Wilson) Campbell 1, sd 4639 ft. Jeffrey et al, Brown 2, sd 3120 ft. Empire Gas and Fuel Co., Daugherty 1, rigging rotary. Magnolia Pet. Co., Scarborough 3, dr 515 ft, red rock. L. C. Turman et al, Daugherty 1, dr 475 ft in red beds, csg cem at 278 ft, 100 sacks.

MITCHELL COUNTY—Gibson-Johnson, W. T. Scott et al 3, sd 1300 ft. Earl Morrison et al, J. F. Morrison 2, sd 3112 ft, shot 270 qts, swabbed 40 bbls oil. Earl Morrison et al, J. N. Poe et al, spudded 10 ft, sd.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: "—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down.. sdtr—sidetracking; sp—spudding; sr — straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

CENTRAL EAST TEXAS

Company, Well and Location	Depth	Initial Production Bbls.
HENDERSON COUNTY—		
Sumray Oil Co., Davis 1	*	4721

BOWIE COUNTY—Joe Burnham et al, G. W. Burnett 1, M. H. Jones sur, rig. Lee Timberlake et al, J. Tidwell 1, Jas. Eskell sur, elev 286 ft, top Pecan chalk 1229 ft, broken sand 2585-2610 ft, sd, td 3008 ft.

CAMP COUNTY—McDonald Bros.-Atlantic Prod. Co. et al, B. D. Tillery 1, J. H. Murphy sur, ru sd.

CASS COUNTY—Phillips Pet. Co., J. R. Olds 1, sd 1187 ft.

CHEROKEE COUNTY—H. J. Cox et al, Farris (Geo. Davis) 1, P. Bean sur, mtls.

DELTA COUNTY—C. A. Evarts et al, J. A. Smith 1, J. W. Renfro sur, elev 525 ft, Pecan chalk 355-399 ft, td 2175 ft, reaming. Delta County Dev. Co., M. E. Hays 1, J. B. Anderson sur, elev 503 ft, Pecan chalk 421-481 ft, td 3000 ft, fsh. Hazel Curtis Oil Co., T. J. Irwin 1, B. Williams sur, co 3025 ft.

ELLIS COUNTY—C. G. Foster & S. C. Richardson, Moise Cerf 1, LaPena sur, elev 440 ft, sd 2187 ft. F. M. Rogers et al, J. L. Winn 1, Orland Wheeler sur, dr 690 ft in shale. The Triangle Corp., W. B. Hale 1, B. Smith

sur, Austin chalk 78 to 437 ft, Woodbine sand 836 to 1120 ft, core 3030-31 ft sand and shale.

FANNIN COUNTY—North Amer. Pet. Co., Allen 1, W. A. Broadfoot sur, sd 1400 ft. Ed. V. Parson et al, Morgan 1, J. E. English sur, elev 668 ft, sd 3490 ft. E. M. Rogers et al, Mrs. E. C. McSwain 1, J. Tolgade sur, sd 1500 ft.

FRANKLIN COUNTY — Harper-Byers Oil Co., A. J. Laws 1, D. G. Rogers sur, spudded and sd.

HENDERSON COUNTY—H. B. Ashburn et al, T. E. Terry 1, Aaron York sur, elev 397 ft, dr 2615 ft. L. G. Bradstreet & Co., J. J. Shaughnessy 1, John Isard sur, elev 548 ft, top Midway 1040 ft, dr 4264 ft. E. L. Chapman et al, Cade 1, Simon Weiss sur, elev 340 ft, top Pecan chalk 3170 ft, fsh 3200 ft. Geo. L. Pace et al, S. Anthony 1, J. M. Bertram sur, elev 410 ft, Pecan chalk 2252-2361 ft, sd 2730 ft. R. J. Worthington Oil and Dev. Co., W. H. Adams 1, lcn. Texas State Oil Co., Skinner 1, lcn. Hunt Co., M. S. Hammond-W. H. Adams 1, lcn. M. S. Hammond, R. L. Gray 1, lcn.

HUNT COUNTY—Mrs. Mamie S. Hamonds-F. B. Branson-C. A. Kelsey et al, J. S. West 1, Jas. Rhodes sur, elev 505 ft, Pecan chalk 1310-1365 ft, Austin chalk 1415-1815 ft, cem csg 2737 ft, flowed salt water 2737-81 ft, sd.

KAUFMAN COUNTY—Otto R. Winter & Coastline Explorations, Inc., John Barrow 1, R. A. Terrell sur, top Austin chalk 2283 ft, cored Eagleford 3155-57 ft, top Woodbine 3232 ft, cored shale 3237-3242 ft, td 3422 ft, encountered salt water.

LIMESTONE COUNTY — Haley-Heeman, Wilkes 1, J. Breeding sur, elev 421 ft, sd 1444 ft.

MORRIS COUNTY — East Tex. Dev. Co. (Tucker Fullwood Cook), P. M. Staggers 1, G. Forbes sur, elev 370 ft, top Pecan chalk 2525 ft, dr 3065 ft chalk.

NAVARRO COUNTY—O. W. Killam-Phillips, L. N. Wilson 1, elev 391 ft, Austin chalk 1157-1497 ft, dr 2750 ft. Young et al, J. H. Farmer 1, Robt. Finley sur, top Austin chalk 787 ft, sd 960 ft. L. G. Priest et al, Albritton 1, lcn.

RAINS COUNTY—Everett & Morrison, F. Franklin 1, J. Christian sur, sp and sd.

RED RIVER COUNTY—E. L. Chapman et al, Morris-Guest 1, S. Lakin sur, sd 1505 ft.

RUSK COUNTY—Benedum-Trees Oil Co. & Clem S. Clark, Mrs. M. R. Claflin 1, E. Blackburn sur, top Navarro 1550 ft, top Taylor 1950 ft, reaming 2650 ft. C. M. Joiner et al, Mrs. Daisy Bradford 3, Juan Xuminez sur, elev 390 ft, Pecan chalk 2590-2744 ft, base Austin chalk 3480 ft, td 3592 ft, sd. Moss et al, Mathews 1, top Pecan chalk 2296 ft, sd 330 ft. C. Rosenfield et al, L. A. Pinkston 1, Maria Velarda Bena sur, lcn, south of Joiner well.

SMITH COUNTY—Owen-Sloane Oil Co. & R. R. Davis, J. H. Starns 1, elev 417 ft, top Pecan chalk 2738 ft, dr 2958 ft. T. B. Slick and Winona Oil Co., H. Freeman 1, elev 498 ft, top Pecan chalk 2955 ft, sd 3520 ft. Sun Oil Co., Oscar McGehee 1, dr 2460 ft. Thayer and Rogers, Dr. Willingham 1, dr 1080 ft in shale.

VAN ZANDT COUNTY—Bethel Oil Co., P. Smith 1, elev 435 ft, Pecan chalk 2555-2790 ft, Austin chalk 3865-4009 ft, sd 4603 ft. D. H. Byrd et al, C. H. Morris 1, elev 570 ft, dr 2424 ft in shale. E. L. Chapman et al, Chas. T. Wolverton 1, elev 515 ft, Pecan chalk 2810-3106 ft, base Austin chalk 3409 ft, sd 3550 ft in shale; Wolverton 2, sd 510 ft. L. G. Priest et al, Blanche Blewett 1, pipe stick, sd 3003 ft. Texas Chief Oil and Gas Co., J. P. Porter 1, elev 548 ft, dry and abn 2464 ft. Vance Oil Co., Wages 1, rig.

VAN FIELD—Mrs. W. A. York, Strip 1, se rig; York 2, lcn. Broderick and Calvert, M. F. Shirley (2.07 ac strip) Pecan chalk 1546-167, set 7-inch csg, ready to bring in, drilling 200 ft deeper. E. L. Chapman et al, Clark 1, sd. Cranfill-Germany, Inc., L. L. Swain 1, shut down by injunction, 14 ft. Helms et al, C. E. Bogue 1, dr 1410 ft, shale. Hill and Hill, Maxfield 1, sd. L. A. Dowdle 1, top chalk 2565 ft, cem cas 2942 ft. Imperator Oil Corp. et al, Carter strip 1, dk. Imperator and Paul Viteks, G. J. Luther 1, elev 447 ft, top Pecan chalk 1653 ft, top Austin chalk 2630 ft, show oil, sd. Roy Jenkins et al, M. E. Davis 1, dr in sand 2917 ft. Kraft-Kelsey and Pure Oil Co., Wylie Enas strip 1, sd 1328 ft. Pure Oil Co., A. D. Clark 5, cem csg 2737 ft. A. D. Clark 1, rig; A. D. Clark (17 ac) 1, top Pecan chalk 1644 ft, fsh 2800 ft; W. H. Cook 1, lcn; B. E. Grim 1, top Austin chalk 2510 ft, cem csg 2868 ft; J. F. Grim (40 ac) 1, tested dry, cem csg 2981 ft; J. F. Grim 2, lcn; Mrs. J. E. Crumble 1, dr 2800 ft; V. T. Davis 1, drk; R. A. Howell (25 ac) 1, top Austin chalk 2296 ft, cem csg 2639 ft; A. R. Humphreys 1, cem csg 2799 ft; I. D. Miller 1, top Austin chalk 2455 ft, cem csg 2788 ft; W. E. Morris (79 ac) 1, top Austin chalk 2548 ft, cem csg 2794 ft, td 2829 ft; J. T. Petty 1, cem csg 2660 ft; M. F. Shirley 1, cem csg 304 ft; O. L. Swain (40 ac) 2, drk; J. T. Taylor 1, lcn; J. T. Thompson 9, lcn; A. R. Tunnell 1, cem csg 2820 ft; Van School (5 ac) 2, cem csg 2662 ft; R. L. Wells 5, drk; Wells 10, cem csg 2572 ft; Wells 11, lcn; W. A. York 1, coring oil sand 2285 ft; York 2, lcn. Shell Pet. Co., J. T. Taylor 1, Austin chalk 2436 -2540 ft, top Woodbine sand 2650 ft, set 7-inch at 2650 ft; E. K. Fowler 7, lcn. Sun Oil Co., I. W. Thompson 3, drk. The Texas Co., G. W. Carter 2, Pecan chalk 1620-1750 ft, Austin chalk 2633-2796 ft, sd dry in Eagleford shale 2934 ft; R. V. White (34.7 ac) 2, cem csg 2734 ft. Van Joint Account, W. E. Morris (3 ac) 2, cem csg 2597 ft. Vintex Oil Co. (Paul Vitek 2 ac strip) 1, drk.

WOOD COUNTY—Wood County Dev. Co., Ricks 1, sd 997 ft.

EAST TEXAS

CASS COUNTY—Jno C. Rodger's Lanier 1, K. A. Welborne sur, dr 1010 ft.

HARRISON COUNTY — Shell Rock Pet. Co.'s Daugherty 1, Burris sur, sd 3520 ft.

MARION COUNTY—W. D. Chew's Fee 1, Wm. Hamilton sur, set 6-inch cas 2270 ft, bailed dry 2532 ft, dr 2550 ft. Trammell et al's Hussey 1, Chas. Lockhart sur, sd for water 1334 ft

PANOLA COUNTY—Texas-La. Prod. Co.'s Lawrence 1, Harrison Davis sur, dr 1488 ft. Knott et al's Marion Durham 1, Chas. Haley sur, sd wo 2400 ft. Smith et al's Hunt 1, Albert Johnson sur, dk. Bell et al's Burnett Lbr. Co. 1, S. B. Hendricks sur, cored sandy shale showing oil, set 8⅝ cas 2047 ft, td 2075 ft Ark. La. P. L. Co.'s Brumble A-2, B. C. Jordan sur, junked old hole 4408 ft, moved 100 ft east, sp set 12½-inch cas 129 ft. W. G. Banks et al's Kyle 1, J. Tippett sur, rig up. Warren & Dawes' McNeese 1, A. Booker sur, dk. Natural Gas Prod. Co.'s Tom Moore 3, B. C. Jordan sur, set 6⅝ cas 4360 ft, cor 4510 ft.

SABINE COUNTY—Loring Oil Co.'s Nona Mills Lbr. Co. 1, Jas. Mason sur, dr chalk 3338 ft (corrected depth).

SHELBY COUNTY — C. R. Ridgeway's Parker 1, Jesse McElvey sur, dk. Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3300 ft.

TEXAS GULF COAST

AUSTIN COUNTY—O'Hara et al's Schrader 1, sd 1790 ft. Empire's Kunze 1, San Felipe, lcn. Humble-Valley's Duncan State Land 2, Brazos River, bldg dk foundation; Hugo Hagan 1, 2 mi s Raccoon Bend, dr 3350 ft sand and shale; Fritz Lamp 1, 1½ mi sw Raccoon Bend, dr 4295 ft hard sand.

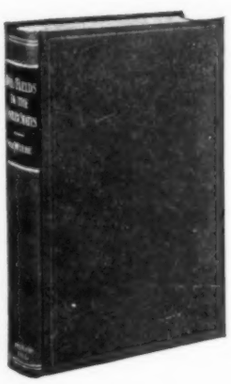
BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash dome, dr 5127 ft lime. Rycade's Wisdom 27, Nash dome, dr 5035 ft sand and lime. Rycade & Amerada's Seaburn 1, Stratton Ridge, dr 2750 ft salt. Freeport Sulphur Co.'s Fee 2001, Bryan Mound, dr 3915 ft sandy shale; Seaburn 1, Stratton Ridge, ru; Stratton 1, Stratton Ridge, ru. Shell's Haury 1, Danbury, dr 1271 ft water sand. The Texas Co.'s Ewing 1, Manvel, dr 7145 ft shale. The Texas Co.'s J. H. Murdock 1, Fresno, set cas at 1500 ft. Mills Bennett's Poole 1, Allen dome, dr 3765 ft gbo; Allen 2, Allen dome, dr 3309 ft sand and lime. United Oil Synd.'s Mores 1, 3 mi n Danbury, sd 1450 ft.

CALHOUN COUNTY — The Texas Co.'s Thomas 1, Chocolate Creek, 6 mi w Port Lavaca, dr 5251 ft sandy shale.

CHAMBERS COUNTY—Pure's Lost Lake 5, r 5120 ft, had oil show. Pure-Rycade's Jackson 1, Oyster Bayou, dr 5385 ft gbo and lime.

FORT BEND COUNTY—Gulf's Moore 25, Moore's Field, dr 2700 ft shale; Moore 26, Moore's Field, dr 2100 ft sand.

GRIMES COUNTY — Deering & Noble's



Oil Fields in the United States

By WALTER A. VER WIEBE

Professor of Geology, University of Wichita

629 pages, 6 x 9, illustrated, $6.00

A complete and systematic presentation of the fundamental facts of oil accumulation in all fields of the United States. The book describes the structural elements which account for the presence of oil, the relation of structure to production and the peculiarities of the geological setting of all oil fields in the country.

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HOUSTON **TEXAS**

"MUD ‹‹‹ HANDLED AT THE PROPER WEIGHT AND IN THE PROPER MANNER"

Oklahoma City, Okla. May 28th 1930.

Hall & Briscoe Inc.
Commerce Exchange Bldg.
City.

Gentlemen:

We, the property owners of East Capitol Hill wish to express our appreciation to Hall & Briscoe for the safe methods employed in the bringing in of the tremendous Holmes gusher.

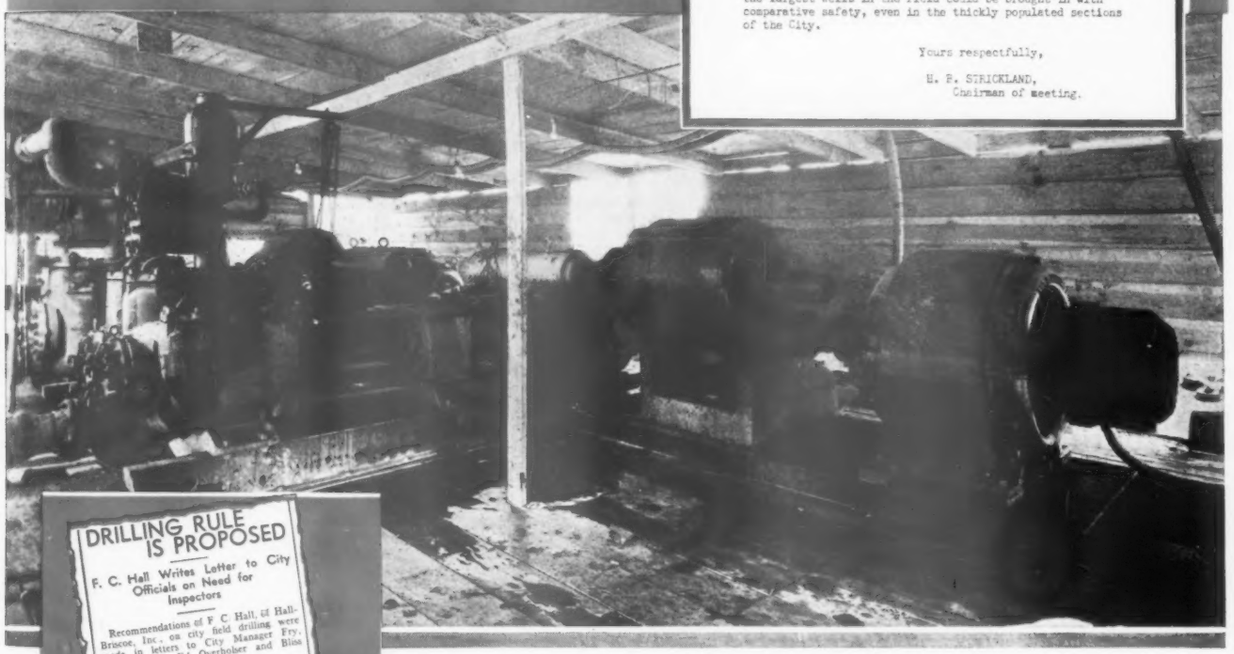
It is our opinion that your demonstration of how the largest wells can be brought in under perfect control, and without damage to adjacent property, has had much to do with the City Council's decision to extend the U-7 zone to include our property.

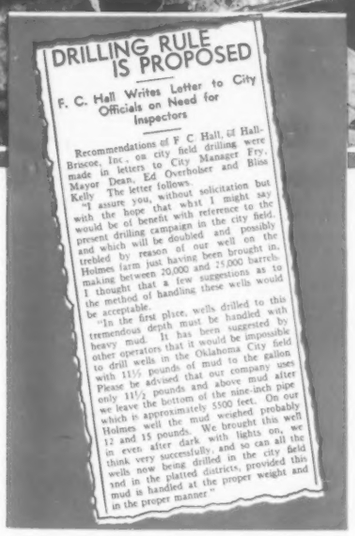
While the bringing in of this enormous producer lacked the usual spectacular performance, that of spraying the surrounding country (and City) with oil, the job was certainly well done, and the neatest job in the field.

While we might not qualify as experts, may we offer the suggestion that if other Companies gave their wells as close personal supervision, used the same weight mud, and adopted other safety methods used by Hall & Briscoe the largest wells in the field could be brought in with comparative safety, even in the thickly populated sections of the City.

Yours respectfully,

H. P. STRICKLAND,
Chairman of meeting.





DRILLING RULE IS PROPOSED

F. C. Hall Writes Letter to City Officials on Need for Inspectors

Recommendations of F C Hall, of Hall-Briscoe, Inc., on city field drilling were made in letters to City Manager Fry, Mayor Dean, Ed Overholser and Bliss Kelly. The letter follows.

"I assure you, without solicitation but with the hope that what I might say would be of benefit with reference to the present drilling campaign in the city field, and which will be doubled and possibly trebled by reason of our well on the Holmes farm just having been brought in, making between 20,000 and 25,000 barrels. I thought that a few suggestions as to the method of handling these wells would be acceptable.

"In the first place, wells drilled to this tremendous depth must be handled with heavy mud. It has been suggested by other operators that it would be impossible to drill wells in the Oklahoma City field with 11½ pounds of mud to the gallon. Please be advised that our company uses only 11½ pounds and above mud after we leave the bottom of the nine-inch pipe which is approximately 5500 feet. On our Holmes well the mud weighed probably 12 and 13 pounds. We brought this well in even after dark with lights on, we think very successfully, and so can all the wells now being drilled in the city field and in the platted districts, provided this mud is handled at the proper weight and in the proper manner."

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LUCEY PRODUCTS CORPORATION

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PLOESTI, ROUMANIA
SAN FERNANDO, TRINIDAD, B. W. I.

Templeman 1, 6 mi s Navasota, dr stem test at 3000 ft showed gas and salt water. Deering et al's Muenke 1, ½ mi n Anderson, dr 2026 ft shale.

HARDIN COUNTY—D. O. Speight's Gidrey 1, 4 mi s Batson, dr 2850 ft sand.

HARRIS COUNTY—Humble's Simms-Smith 78, Goose Creek, dr 4975 ft shale; Warren 8, Hockley, dr 3907 ft sand and shale; Minnetex 3, Mykawa, set screen to test oil show from 4825 to 4875 ft. Mrs. J. C. Baldwin's Kitzman 1, 2 mi n Cypress, sd 4250 ft. Gulf States Oil Co.'s Augspurger 1, 8 mi n Houston, dr 1800 ft shale.

JACKSON COUNTY — Jackson Co. Oil Synd.s' Drushell 8, Edna, showed gas on dr stem test at 3875 ft.

JEFFERSON COUNTY—Westbury Oil Co.'s West 1, S. Choate sur, sd 4100 ft.

LIBERTY COUNTY — Harrison Oil Co.'s Quintett 1, N. Dayton, came in flowing 1500 bbls 42 gravity pipe line oil daily at 4515 ft; Gulf Fee 1, dr 4950 ft. Saxet Oil Co.'s Wilhite 3, N. Dayton, dr 5300 ft shale and lime. Gulf's Ezzell 1, Hankamer, dr 4375 ft shale; Boyt 9, ru. Yount-Lee's Moores Bluff 3, Esperson, milling out at 7100 ft. Gulf's McFadden 2, Moss Bluff, dr 4855 ft shale. Humble's Breeden 1, Moss Bluff, ru; Hylton 1, Moss Bluff, dr 4150 ft sandy lime; Sergent 1, Moss Bluff, dr below 100 ft. Rycade's Heiskell 1, 15 mi s Dayton, dr 1215 ft gbo.

MATAGORDA COUNTY—Empire's Boker 1, Citrus Grove, dr 4860 ft water sand. Cockburn Oil Corp.'s Hawkins 2, Shepherds Mott, spudded.

MONTGOMERY COUNTY—Price & Wilhite's Juergus 2, 3 mi Conroe, sd 2950 ft.

ORANGE COUNTY—Gulf's Stark 1, Port Neches, dr 6050 ft sand. The Texas Co.'s Stark 2, Port Neches, coring sand 5163 ft.

WALKER COUNTY—Joyce Richardson et al's Smither 1, 12 mi n Huntsville, sd 3450 ft.

WHARTON COUNTY—C. S. Thomas' Taylor 1, Boling, dr 1575 ft shale.

WALLER COUNTY — W. P. Morris & Veihl's Chapman 1, 6 mi n Hempstead, sd 3510 ft.

WASHINGTON COUNTY—Clifton et al's Pruiss 1, 3 mi sw Brenham, dr 1628 ft shale.

SOUTH LOUISIANA

ACADIA PARISH—Yount-Lee's Houssiere-Latrielle 9, Evangeline, dr 7150 ft hard sand; Crowley 7, Evangeline, dr 4650 ft sand.

AVOYELLES PARISH — M. L. Vincent's Morrow 1, 14-2s-4e, dr 675 ft gbo.

CALCASIEU PARISH — Adams Oil Co.'s Roderick 1, Starks, sd 1100 ft. J. O. Davis' Ind. Lbr. Co. 1, 20-7s-12w, dr 5685 ft gbo. Union Sulphur Co.'s Martha Moss 1, Lockport, dr 6013 ft gbo; Moss 2, sd 5065 ft. Yount-Lee's Miller 1, Lockport, dr 6925 ft, sticky shale.

CAMERON PARISH — Magnolia's Sweet Lake 1, dr 7050 ft, sticky shale. Shell's Watkins 15, Black Bayou, dr 2610 ft sand; Black Bayou State 1, dr 5140 ft sandy shale. Freeport Sulphur Co.'s Yount-Lee 3, Black Bayou, abn at 1250 ft in cap rock; No. 4, dr 985 ft gbo. Vacuum's Cameron Meadows 1, 21-14s-13w, dr 5140 ft sandy shale. The Texas Co.'s Calcasieu Lake State A-6, s end lake, set cas at 50 ft; State-E. Hackberry 7, dr 4335 ft lime and sand. Federal Pet. Co.'s Hebert 1, Hackberry, 33-12s-10w, dr 7826 ft shale.

IBERIA PARISH—The Texas Co.'s State Vermilion Bay 5, abn at 6525 ft. Lake Oil Co.'s Ben White 1, New Iberia, abn at 2750 ft in salt. Jefferson Lake Oil Co.'s Lake Peigneur 9, Jefferson Island, dr 605 ft cap rock; No. 10, abn at 1000 ft in shale.

IBERVILLE PARISH—Standard's Wilbert 5, Bayou Blue, swabbing at 3225 ft; Wilbert 7, dk; L. Baist Cooperage Co. 1, Bayou Blue, cappel piling; E. B. & S. P. Schwing 1, Bayou Blue, dr 2190 ft gbo; Wilbert 8, Bayou des Glaisse, dr 3225 ft sand and lime; Case 2, lcn. Shell's Wilbert 5, White Castle, dr 4825 ft sand and lime. Gulf's Gay 1, Bayou Choctau dome, lcn. Texas Gulf Sulphur Co.'s Wilbert 1, Bayou Choctau, abn at 1820 ft in gbo; Wilbert 2, dr 1750 ft gbo; Wilbert 3, dr 500 ft gbo.

JEFFERSON PARISH—Humble's Delaware Fur Co. 1, 3 mi nw Lafitte, dr 4416 ft sticky shale.

JEFFERSON DAVIS PARISH—Vacuum's DeVilbiss 1-A, Roanoke, dr 4050 ft sandy shale.

LAFAYETTE PARISH—Pure's J. Manmotin 1, 5 mi n Lafayette, dr 6740 ft shale and lime.

LA FOURCHE PARISH—The Texas Co.'s LL & E. Leesville 1, dr 3975 ft gbo.

PLAQUEMINES PARISH—Humble's Cockrell-Moran 2, Lake Grande Ecaille, driving piling; Cockrell-Moran 3, coring broken lime at 1525 ft. The Texas Co.'s Garden Island Bay State 4, dr 4075 ft gbo. Gulf's Buras Levee Board 1, 27-21s-30e, moving in.

ST. LANDRY PARISH — Gulf's Hoskins A-3, Port Barre, completed for 135 bbls daily on pump at 3380 ft.

ST. MARTIN PARISH—The Texas Co.'s Iberville Ind. Co. 2, Hager dome, dr 1850 ft gbo; No. 3, lcn. Rycade's Woodyard Lake 1, Bayou Bouillon, dr 5739 ft sandy shale; State 4, Bayou Bouillon, ru.

ST. MARY PARISH — The Texas Co.'s South Coast Co. 1, Charenton, dr 7559 ft hard sand.

TERREBONNE PARISH — Chas. Paggi's Evergreen 2, Houma, sd 1800 ft. The Texas Co.'s Bay Junop 2, 21-21s-14e, dr 3125 ft gbo; Dog Lake A-3, dr 1325 ft sand and gravel, will set cas; State-Caillou Island 4, lcn; No. 5, lcn; Lake Pelto State 4, lcn; No. 5, lcn; No. 6, lcn; Bay St. Elaine 5, dk; State-Lake Barre 5, dr cap rock 2765 ft; No. 6, lcn; Four Isle 4, dr 3650 ft shale.

WEST FELICIANA PARISH — Putnam Synd.'s Como Plantation 1, 54-1-4w, total depth 3735 ft, may test oil show reported at 3340 ft.

SOUTH CALIFORNIA

ATHENS—McKeon Oil Co.'s No. 1, lcn.

CORONA—Western Gulf's Abacherli 1, lcn.

COMPTON — Central Heights Oil Corp.'s No. 1, plugged to 1800 ft, will re-dr.

DOMINGUEZ—Tenacity Oil Co.'s Del Amo 1, will make production test, td 8575 ft, 4¾-inch cas cmt at 7555 ft, will make open hole test.

FULLERTON — Standard's Bastanchury 1, dr brown shale, 6965 ft.

HERMOSA — California Ventura Oil Co.'s Sadler 1, rig; Holston 1, pumping oil and water, td 3390 ft.

LA HABRA—R. C. Rucker's Grazide 2, rig. Union's Sansinena 11, trying to locate water, td 4810 ft.

ALHAMBRA—Fred Hammer's No. 1, lcn.

MONTEREY PARK—Celito Oil Co.'s Jepson 1, 8⅝-inch cas cmt 3560 ft, td 5275 ft.

NEWHALL—Consolidated Oil Co.'s Hammond 1, 8⅝-inch cas cmt 2185 ft. Dudley-Newhall Synd.'s No. 1, dr gray sand 1425 ft. M. K. T. Oil Co.'s Farrier 1, ready to sp. National Securities Co.'s Seeple 1, dr shale 1655 ft. Southern California Drilling Co.'s Needham 4, dr gray sand 2375 ft.

NEWPORT—Standard's Irvine 1, dr shale 2008 ft.

POMONA—Lamona Oil Assn.'s No. 1, dr granite 935 ft.

PUENTE—Arden Oil Co.'s Puente 1, dr gray sand and oil sand 2835 ft. Bardeen Pet. Corp.'s Didier 1, dr gray sand 4945 ft. Rio Hondo Pet. Co.'s Rowland 1, swabbing for test, td 3450 ft. Western Gulf's Diamond Bar 1, dr hard sand 6625 ft.

SAN FERNANDO—Shell's Andrews 1-1, dr hard sand 4900 ft.

SANTA FE SPRINGS—Union's Orchardale 1-1, dr shale 4505 ft.

SAN JUAN CAPISTRANO—Okay No. 2's Foster 2, dr gray sand 4388 ft.

WILMINGTON — Rio Grande's Watson 1, washing over drill pipe and co 6295 ft.

NORTH CALIFORNIA

Company, Well and Location	Depth	Initial Production Bbls.
McKITTRICK—		
Ohio's M. M. 1, 32-20-22	*	7362
SHAFTER—		
Elmer Oil Co.'s McVey 1, 8-28-25..	*	6067

KERN COUNTY

BELRIDGE—General Pet.'s Berry 1, 30-28-21, rigging up rotary. Richfield's Belridge 1, 22-27-20, dr shale 4805 ft. Rio Grande's Garcia 1, 18-28-22, m 2800 ft, td 3680 ft. Shell's Core Hole 1, 25-28-20, dr shale 900 ft. K. C. Wallace's No. 1, 32-29-21, dr shale and sand 3654 ft.

BUTTONWILLOW — Nordon Oil Corp.'s Salisbury 1, dr shale 5065 ft.

COMANCHE POINT — W. W. Stabler's Comanche 1, 4-11-18, sd 1810 ft.

DEVILS DEN—Standard's Alferitz 1, 14-25-18, lcn.

EDISON—Petroleum Securities Co.'s Johnson-Moss 1, 14-29-29, dr hard sand 2575 ft.

EL TEJON—J. J. Ritchie's No. 1, 33-11-19, dr hard sand 3362 ft.

GOULD HILLS—Casa Mira Oil Co.'s Theta 1, 20-28-20, co 3665 ft.

PATTIWAY—H. A. Bardeen's Ramsey 1, 10-10-23, dr hard sand 3925 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, co, td 5985 ft.

WEED PATCH—Shell's Porter-Day 1, 29-30-29, fsh for liner, td 5370 ft, produced 100 bbls 16.4 gravity oil and some water on short test.

SANTA BARBARA COUNTY

CAMPBELL'S POINT — Bolsa Chica Oil Corp.'s Augur 191-1, 24-4-9, dr shale 1830 ft.

CASMALIA—Wildcat Oil and Royalty Co.'s Donovan 1, 20-10-35, running tubing to test showings at 4900 ft, td 5505 ft.

GATO RIDGE — Barnsdall's Tegnazzini 1, 9-8-32, dr shale 3765 ft.

GOLETA—General Pet.'s More 3, dr shale 1616 ft. George W. Johnson's Duncan 1, rigging up to deepen, td 3970 ft.

LOMPOC—Prairie Oil and Gas' Shyvers 1, 11-7-35, dr gray sand 5340 ft.

LOS ALAMOS—N. S. Wilson's No. 1, rig.

NAPLES—J. H. Cochran's No. 1, 7-4-29, dr shale and gray sand 3275 ft.

ORELLA—General Pet.'s Erburu 8, dr shale 1245 ft; Erburu 9, lcn; Erburu 10, lcn.

POINT CONCEPCION—Standard's Gerber 1, dr gray sand 6082 ft. Universal Consolidated's Concepcion 1, dr gray sand 4700 ft.

PURISIMA — Vaqueros Major Oil Co.'s Union Annex 2, 6-7-33, dr shale 2717 ft; Union Annex 3, lcn.

SANTA MARIA — O. C. Fields Gasoline Gasoline Co.'s Norswing 1, 8-9-33, dr shale 5070 ft; Bradley 1, pulling 4¾-inch cas, td 5265 ft. Western Gulf's Bradley 1, 5-9-33, dr shale 2700 ft.

VENTURA COUNTY

HOPPER CANYON—Rio Grande's Lankershim 1, 13-4-19, co 1820 ft. George H. Hadley's No. 1, 13-4-9, dr shale and hard sand 905 ft.

LOCKWOOD VALLEY—Lockwood Valley Oil Co.'s No. 1, 32-8-21, rig.

PIRU—A. N. Macrate's Torrey-Eureka 1, 32-4-18, rigging up.

RINCON—Chanslor-Canfield Midway's Hobson A-2, producing 200 bbls 18.5 gravity oil, td 7480 ft.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Calabasas 1, 18-1-17, fsh for drill pipe, 5670 ft.

SANTA MARIA—W. W. Bryant's Anlauf 3, 21-4-21, co 1425 ft. Empire Oil Co.'s Steen 4, 13-4-21, pumping oil and water, td 3840 ft. Cailfornia Republic Pet. Corp.'s Chimes 1, 23-4-21, rig.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, dr shale and oil sand 4920 ft.

SANTA PAULA — George C. Thompson's No. 1, 15-4-21, dr shale 2000 ft.

SESPE — Superior's Kirtlan 1, 15-4-21, dr hard sand 1180 ft.

SOMIS—Shell's Everett 1, dr shale 3184 ft.

VENTURA—Prairie's Sexton 1, 30-3-22, dr shale 7451 ft.

MISCELLANEOUS

FRESNO COUNTY — Ohio's Welch Brix A-1, 8-21-15, dr 4435 ft. Associated's Mitchell 1, lcn.

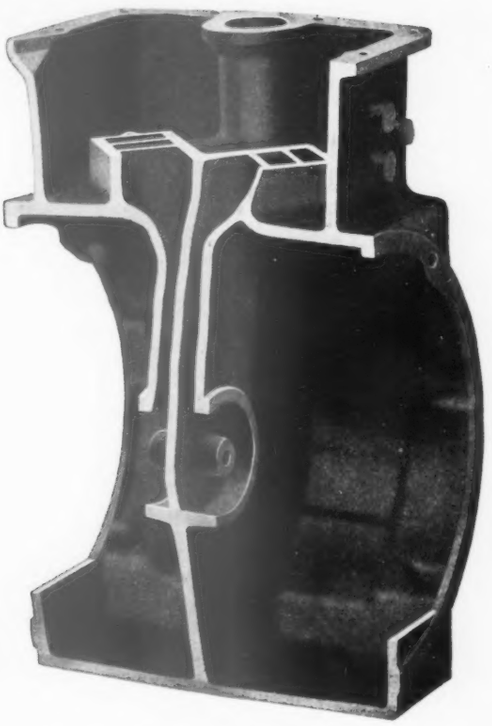
KINGS COUNTY—Friend and Fiske's No. 1, 11-23-19, rigging up.

MENDOCINO COUNTY — Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 4515 ft.

MONTEREY COUNTY — Standard's Piedmont 1, 23-22-7, dr shale 5420 ft.

SAN LUIS OBISPO COUNTY—Paso Robles Synd.'s Emerick 1, 34-27-11, swabbing water, td 3910 ft. Pismo Dome Oil Co.'s Pricco 2-A, 5-31-13, dr shale 2875 ft. Texas Pacific Coal and Oil's No. 1, 35-32-14, re-dr 3920 ft.

TULARE COUNTY—Big Four Drilling Co.'s No. 1, 29-23-27, re-dr 4300 ft. Ford Alexander's No. 1, 34-22-27, testing 8¼-inch shutoff, td 1000 ft. Campbell Oil Co.'s No. 1, 22-22-27, rigging up. Cummings Pet. Corp.'s No. 1, 27-22-27, ready to sp. Hagerty and Caine's No.



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1, 7-23-28, dr shale 725 ft. Jennings Synd.'s McMasters 1, 8-23-28, rigging up. Larson Oil Co.'s Best 1, 11-23-27, dr shale 822 ft. Paul M. Lewis' No. 1, 15-22-27, dr oil sand and shale 725 ft. Mills and Wilson's No. 1, 35-22-27, rigging up to pump, td 913 ft. No Name Oil Co.'s No. 1, 2-23-27, rig. Rayatt Oil Co.'s Hinshaw 1, 34-22-17, dr shale 725 ft. Terra Bella Drilling Co.'s Rusling 1, 34-22-27, making production test, td 925 ft; Gardiner 1, 35-22-27, pumping oil and water, td 918 ft. Turn and Campbell's Nevins 1, 34-22-27, dr 300 ft. United Kern Pet. Co.'s No. 1, 34-22-27, sp. Western Oil and Exploration Co.'s Gardiner 1, 35-22-27, pumping water and small amount oil, td 1022 ft. Roy White's No. 1, 8-23-26, dr shale 4300 ft.

YOLO COUNTY—George F. Getty's Guinda 1, 28-12-3, dr sale 1420 ft.

OKLAHOMA

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair, Share 1, c ne sw, show oil 7137-38½ ft, hfw 7160 ft, dr 7248 ft, hfw.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, td 1420 ft, sd.

KAY COUNTY — T 27n, R 2e, Sec. 17, Blankenship et al, Hansen 1, sw nw sw, water 3612-16 ft, pb and shot 10, 20, 40 qts at 3587 ft to 3597 ft, pumps 20 bbls, fshg job.

HARPER COUNTY—T 26n, R 24w, Sec. 14, Sinclair, Howell 1, c sw sw, td 8590 ft, pb 6700 ft, shot 5 qts 5300-5340 ft, 7M gas, some gasoline.

GRANT COUNTY—T 26n, R 5w, Sec. 25, Bu-Vi-Bar et al, Hurst 1, c sw, small show oil 4780-90 ft, dr 4925 ft.

KAY COUNTY—T 26n, R 1w, Sec. 32, Boucher et al, Jefferson 1, ne c sw, dr 700 ft

HARPER COUNTY—T 25n, R 20w, Sec. 12, Empire, Bruce 1, sw c ne ne sw, dr 6265 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu-Vi-Bar et al, Fee 1, se c sw, sd 6104 ft.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acres 1, c sw ne, sd 4660 ft, woc.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer et al, White 1, se c nw, fsh 5721 ft, td.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 2, ne c se ne sw, sd 5640 ft.

WOODWARD COUNTY — T 23n, R 17w, Sec. 23, Transcontinental & Prairie, Wilbur 1, ne c, sd 7425. T 21n, R 19w, Sec. 15, Burgoyne Bros., Merklin 1, sw c se ne, 1910 ft abn.

NOBLE COUNTY—T 21n, R 1e, Sec. 12, Barnsdall et al, Minch 1, nw c sw, ur 820 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, td 3730 ft, sd.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey et al, Quier 1, se c sw, sd 3970 ft. T 17n, R 4w, Sec. 34, Eason Oil Co., Katchor 1, sw ne sw, dr 4400 ft. T 17n, R 2w, Sec. 24, Slick, Ramsey & Prairie, Jones 1, c se nw, dr 4381 ft. T 17n, R 1e, Sec. 22, Slick & Prairie, Sims 1, ne sw se, dr 4400 ft.

KINGFISHER COUNTY — T 16n, R 7w, Sec. 6, Gault Brown, Boch 1, c nw se (owdd) cored 6022 ft, cement crooked hole.

LOGAN COUNTY—T 16n, R 1w, Sec. 33, Slick & Prairie, Morgan 1, c nw ne, dr 5592 ft.

KINGFISHER COUNTY — T 15n, R 5w, Sec. 23, Slick & Prairie, Wright 1, c nw sw, dr 4505 ft.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 22n, R 3e, Sec. 26, Wentz Oil Corp., Lillie 1, se sw ne, dr 2175 ft. T 20n, R 5e, Sec. 1, Flynn, Morgan et al, Freeman 1, nw c, ur 12-inch 1175 ft. T 20n, R 5e, Sec. 22, J. M. Scott et al, Jones 1, sw c ne, dr 3190 ft.

LINCOLN COUNTY—T 17n, R 2e, Sec. 28, Thurman, Deaner et al, Stufflebeam 1, ne c sw, Wilcox 4925-30 ft, wtr, td 4940 ft, dry and abn.

LINCOLN COUNTY—T 14n, R 6e, Sec. 5, Atlantic Oil Prod. Co., Ryan 1, se c nw, dr 4235 ft. T 13n, R 4e, Sec. 2, Magnolia, Winship 1, ne c sw, Wx. 5247-60 ft, cored—water, td 5266 ft, dry and abn.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 36, Henry Oil Co., Harjo 1, nw c, dr 4003 ft. T 12n, R 10e, Sec. 3, Sheppard et al, Sheppard 1, se nw sw, water 3690 ft, sd.

MUSKOGEE COUNTY—T 11n, R 19e, Sec. 21, E. Mills et al, C. J. Martin 1, nw c se, sd 1001 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw c nw se, shot 130 qts, co 5660 ft. T 8n, R 14e, Sec. 14, C. D. Cannady, Smith 1, nw c, rig. T 7n, R 13e, Sec. 18, Apex Oil Co., Walker 1, nw c se, spd.

OKLAHOMA COUNTY—T 14n, R 3w, Sec. 32, Mid-Kansas et al, Messer 1, sw c, ts 6495 ft, dr 6715 ft, show oil, est 2M gas, swab 700 bbls. T 13n, R 3w, Sec. 17, Slick & Prairie, Dills 1, c se nw, 6630 ft, dry and abn. T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph 1, sw c ne sw se, sd 6700 ft. T 11n, R 2w, Sec. 3, Ryan Consol. Co., Lawton 1, ne c nw, td 6902 ft, to plug back.

CLEVELAND COUNTY—T 6n, R 1e, Sec. 20, Harris & McNeal, Corbett 1, c sw ne, td 6518 ft, bailed small show oil, sd.

OKFUSKEE COUNTY—T 11n, R 8e, Sec. 11, Carter et al, Keys 1, sw ne sw, dr 3449 ft, show of oil.

POTTAWATOMIE COUNTY—T 10n, R 4e, Sec. 10, Shell, Baker 1, nw c se, lcn.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, lcn.

HUGHES COUNTY—T 9n, R 12e, Sec. 29, Cannady, Kanard 1, nw c sw, ts 4468-4506 ft, hfw, pb 3540 ft, sd.

POTTAWATOMIE COUNTY—T 8n, R 3e, Sec. 3, Texas, Knight 1, sw c se, td 4683 ft, cemtg 8-inch csg. T 8n, R 4e, Sec. 11, Lippa et al, Helmerich 1, ne c nw, dr 4023 ft. T 7n, R 3e, Sec. 19, Droppleman et al, Fundis 1, se c ne, rur. T 6n, R 4e, Sec. 30, Deep Rock, Marshall 1, sw c, td 3808 ft, shot 100 qts 2285 ft, shot 60 qts 3185 ft, sd hfw. T 6n, R 5e, Sec. 5, Robinson et al, Croush 1, nw c sw, lcn.

SEMINOLE COUNTY—T 6n, R 7e, Sec. 9, Nea & Milton, Thomas 1, nw c ne sw, rig.

ROGER MILLS COUNTY—T 13n, R 21w, Sec. 10, Richfield, Hiatt 1, se c, rig. T 12n, R 24w, Sec. 23, Bucy & Stone, Williams 1, c sw, sd 2243 ft.

BECKHAM COUNTY—T 10n, R 22w, Sec. 29, J. F. Cuniff et al, Brower 1, c nw, sd 3793 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

CADDO COUNTY—T 9n, R 13w, Sec. 18, J. J. Wright et al, Boys 1, ne c, lcn.

BECKHAM COUNTY—T 8n, R 22w, Sec. 20, Carson et al, Denby 1, sw se ne, 1625 ft.

GREER COUNTY—T 7n, R 22w, Sec. 1,

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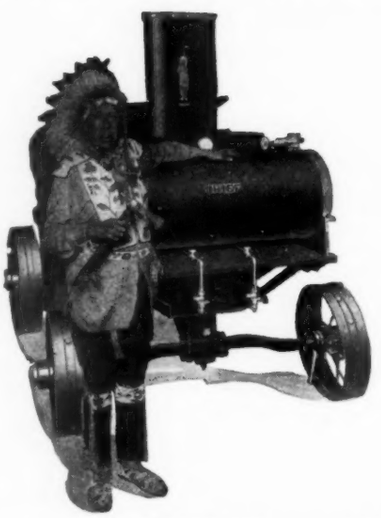

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Good & Dowell, Cliffel 1, nw c, sd 1265 ft. T 7n, R 21w, Sec. 23, H. A. French et al, Murph 1, sw nw se, sd 100 ft. T 6n, R 24w, Sec. 17, I. T. I. O., et al, Fee 1, c ne, sd 2485 ft.

CADDO COUNTY—T 6n, R 11w, Sec. 24, Simms Pet. Co. et al, 1, se c nw, rig.

HARMON COUNTY—T 4n, R 24w, Sec. 17, Harmon-Tex Oil Co., Headley 1, ne c, ur 2380 ft.

COMANCHE COUNTY—T 3n, R 9w, Sec. 3, Okla. Nat. Gas Co., Doebel 1, ne c sw sw sw, 1450 ft.

HUGHES COUNTY—T 5n, R 10e, Sec. 30, A. V. Erwin, Jones 1, se c ne, sand 4270-75 ft, rust. T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, se c sw, 2M gas 915-18 ft, hfw, sd 1645 ft.

GARVIN COUNTY—T 4n, R 3e, Sec. 10, C. R. Obermeyer, Stricklin 1, ne c sw, sand 2747-65 ft, 200 ft oil in hole, td 2880 ft, pb 2607 ft, dr out. T 3n, R 4w, Sec. 5, McMin & Arrowsmith, Carson 1, ne c nw, sd 3026 ft.

COAL COUNTY — T 3n, R 9e, Sec. 26, Blackwell, Gumm 1, nw c, dr 4162 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Quinn 1, nw c, sd 80 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Tex-Okla. Drlg. Co., Anderson 1, se ne se, dr by td 2580 ft.

LOVE COUNTY—T 6s, R 3w, Sec. 20, Harry Hobbs, Steele 1, sw c ne ne sw, sd 3130 ft.

BRYAN COUNTY—T 6s, R 7e, Sec. 8, Geo. L. Pace, Hicks 1, sw c nw, sd 1250 ft. T 6s, R 7e, Sec. 14, W. A. Johnson, Ussery 1, se c, sd 325 ft. T 6s, R 9e, Sec. 35, O. P. Bush, Commerce Trust Co., ne c, sd 600 ft.

KANSAS

MORTON COUNTY—Argus Gas Co., Wiley 1, c ne, 4-35-37w, 8-inch 2550 ft rust.

STEVENS COUNTY—Argus Gas Co., Headrick 1, c nw, 9-35-37w, 2-inch 2531 ft, rust.

SUMNER COUNTY—Davidson et al, Strickland 1, sw se 12-35-1w, rig.

MORTON COUNTY — Hydraulic Oil Co., State land 1, nw se, 22-34-43w, dr 2923 ft. Argus Gas Co., Forward Fee 1, c ne, 5-34-38w, 8-inch 2592 ft, rust.

STEVENS COUNTY — W. Sidwell et al, Kelly 1, sw ne 16-34-38w, sd 1600 ft; Tidpath 1, c se, 27-34-37w, 8-inch 2530 ft, dr 2585 ft; Gibbons 1, c se, 29-34-37w, 8-inch 2538 ft, rust; Burrows 1, c sw, 31-34-37w, rig; Jester 1, c nw, 7-34-37w, dr 990 ft.

HARPER COUNTY—Atkinson et al, Misak 1, se c 25-34-6w, dr 1800 ft.

SUMNER COUNTY—Disney et al, Foy 1, c e½ se 14-34-1w, rig. Magnolia, Shriner 1, nw sw 9-33-2e, 10-inch 1981 ft, 8-inch 2667 ft, dr 2720 ft.

CHAUTAUQUA COUNTY—Leighty et al, Carr 1, c nw se, 5-33-9e, dr 580 ft.

STEVENS COUNTY—McNabb & Mid-Kansas, Rinehart 1, c ne, 22-32-39w, rig. Mangle, Youngren 1, c se nw, 24-32-39w, sd 2523 ft. Argus Gas Co., Olsen 1, c se 1-32-38w, 8-inch 2470 ft, rust; Davis 1, c sw, 31-32-38w, 8-inch 2365 ft, rust.

BARBER COUNTY—Phillips & Robertson, Powell 1, c se se, 11-32-10w, T. Wilcox 4759 ft, 4586 ft, hfw.

COWLEY COUNTY — Tom Fine, Boyd 1, nw ne, 32-32-4e, 12-inch 1265 ft, sd 2650 ft. Roth & Faurot, Reidy 1, c sw nw ne, 8-32-8e, dr 375 ft.

STEVENS COUNTY—McNabb et al, Porter 1, c nw, 4-31-37w, 8-inch 2448 ft, fsh 2590 ft.

HARPER COUNTY—Beeler et al, Bear 1, c ne, 21-31-6w, td 1830 ft, sd.

ELK COUNTY—Croft & Frazier, Keys 1, se ne 26-31-6w, stg 6-inch 1972 ft.

KIOWA COUNTY—Phillips-Prairie, Bean 1, ne se 10-30-17w, 3950-55 ft hfw, sd 3955 ft.

STANTON COUNTY — Argus Gas Co., Plummer 1, c ne, 11-29-41w, rig.

GRANT COUNTY—McKenna et al, Sullivan 1, ne c 12-29-38w, spd and sd.

KINGMAN COUNTY—Slick, Pryor & Lockhart, Wetherall 1, ne sw 36-29-6w, stdz at 4157 ft.

ELK COUNTY—Alladin, Donnell 1, ne se sw 26-29-10e, dr 1315 ft.

KIOWA COUNTY—McKenna et al, Ralston 1, c ne, 14-28-20e, ru sd.

BUTLER COUNTY—Farrell et al, Sutter 1, nw c 18-28-7e, dr 830 ft.

KINGMAN COUNTY—Skelly, Miles 1, ne c, 30-27-10w, td 200 ft, csg trbl.

FORD COUNTY—McNabb et al, Fowler 1, c se, 26-27-22w, td 400 ft, sd.

SEDGWICK COUNTY — Newman, Inc., Bawly 1, c se nw ne 2-27-2e, Wilcox 3224-39 ft, hfw 3239 ft, ur 8-inch, td 3311 ft.

GREENWOOD COUNTY — Mallory et al, Denchfield 1, se nw 12-27-9e, dr 1810 ft, sd. F. Konkay et al, Rook 1, nw ne ne 7-27-12e, td 1836 ft, sd.

PRATT COUNTY — Wilcox, Unknown 1, sw nuw 7-26-15w, td 4395 ft, hfw, csg trbl.

RENO COUNTY—Valerius, Stevens 1, c ne se ne 6-26-7w, T. Wilcox 4156 ft, td 4230 ft, hfw, sd. Tom Palmer & Phillips Pet., Horsch 1, ne se 14-26-5w, 4043-47 ft hfw, td 4067 ft, sd.

BUTLER COUNTY—Gypsy, Osborne 1, nw se 22-26-3e, ur 8-inch 2785 ft. National Ref. Co., Settergren 1, nw c, 32-26-4e, dr 1500 ft.

FORD COUNTY—Swain et al, Kenthorn 1, c nw 21-25-24w, td 3795 ft, re-rng 6-inch.

RENO COUNTY—Shell et al, Popp 1, nw c 11-25-5w, bad hole, cmtd back 750 ft, sd, to redrill at 1450 ft.

GREENWOOD COUNTY — Harwood Oil, Loy 1, 20-25-10e, sw ne, 6-inch 1725 ft. Staats et al, Swan 1, ne nw 3-25-12e, spd and sd. Bundy-Smith & O'Neil, Ford 1, ne nw 28-25-13e, 8-inch 1115 ft.

PAWNEE COUNTY—Skelly, Milhouse 1, c se 32-23-17w, T. Viola 4510 ft, hfw, 6-inch 4672 ft, dr 4831 ft.

RENO COUNTY—Study, Hawry 1, ne sw 1-23-4w, 3313-30 ft, 17M gas, sd.

BUTLER COUNTY—Empire & McCullogh, Lilley 1, c sw nw nw, 23-23-5e, dr 350 ft.

STAFFORD COUNTY—Midwest, Richardson 36, se c 36-22-12w, 3542-45 ft, 3300 ft oil in hole, co. Boucher, Groves 1, ne c 9-22-11w, td 2665 ft, 8-inch 2735 ft, fsh 2930 ft.

RENO COUNTY—United Petroleum, Houston, 1, nw c 4-22-10w, sil. 1, 3545 ft, hfw, sd. Alco Royalty Co., Kinney 1, se c 16-22-7w, dr 2335 ft. Braden et al, Theisen 1, se ne 6-22-4w, dr 1210 ft.

COFFEY COUNTY—Hegberg et al, Kroft 1, se sw se, 30-22-14e, dr 90 ft. McGregger et al, Wood 1, c ne nw sw 32-22-15e, td 1100 ft, fsh 8-inch.

RICE COUNTY—United Pet. Co., Wellman 1, ne c 29-21-9w, td 2075 ft, ur 10-inch.

MARION COUNTY—Magnolia, Davis 1, se nw 18-21-2e, 8-inch 2700 ft.

COFFEY COUNTY—Prairie, Hatch 1, nw se, 35-21-13e, dr 1553 ft.

PAWNEE COUNTY—Phillips, Cuthbertson 1, c ne, 27-20-18w, ru.

BARTON COUNTY—McCool et al, Tsern 1, c sw se ne 12-20-11w, dr 530 ft.

RICE COUNTY—Skelton Oil, Ott 1, c se se, 16-19-14w, rig. Hershey, Golden & Skelly, Brandenstein 1, c sw 10-19-10w, 8-inch 2602 ft, dr 2680 ft.

MARION COUNTY—Marshall et al, Higgens 1, ne c 33-19-5e, rig.

LYON COUNTY—Griffith et al, King 1, nw c 8-19-10w, 12-inch 910 ft, sd.

RUSH COUNTY—Syndicate Oil, Mohr 1, c sw 2-18-16w, 6-inch 3480 ft, sd 3670 ft. Syndicate Oil, Tannen 1, c sw 11-19-16w, lcn.

RICE COUNTY—Jasper & Beschka, Cupp 1, sw ne, 22-18-9w, rig.

McPHERSON COUNTY—Alladin Pet., Larson 1, c nw, 22-18-4w, rig.

RUSH COUNTY — McPherson, Brack 1, c nw, 24-17-16w, td 3750 ft, fsh blr.

ELLSWORTH COUNTY—Slick et al, Hecken 1, nw c 24-17-10w, 2980-82 ft, 6M gas, td 2982 ft, csg trbl.

MARION COUNTY — Dixie & Arkansas Fuel, Hacker 1, nw ne 6-17-1e, T. chat 2720 ft.

RUSH COUNTY—Prairie, Leiker 1, c nw sw sw 5-16-13w, dr 2930 ft.

ELLSWORTH COUNTY—Alladin & Marland, Barecky 1, c nw, 3-16-10w, rig.

MORRIS COUNTY—Urschell et al, Scott 1, ne sw 6-16-6e, sd 2420 ft. Pratt et al, Whiting 1, nw sw sw 34-16-6e, dr 350 ft. Hankenson et al, Sessnum 1, sw se 24-16-9e, rig.

ELLIS COUNTY—Rush Oil Co., Gatewood 1, nw 4-15-20w, td 3790 ft, co.

FRANKLIN COUNTY—Empire, Wasson 1, c se se, 34-15-18e, dr 560 ft.

RUSSELL COUNTY—Empire, Sherwood 1, c se nw nw 21-14-13w, lcn.

ELLSWORTH COUNTY—Milton et al, Kester 1, sw ne 6-14-9w, rig.

DOUGLAS COUNTY — Steinbushel et al, Unknown 1, sw ne nw 34-14-21e, td 1110 ft, sd.

OSAGE COUNTY—Riggs & Smith, Wood 1, c se nw 21-14-15e, sd 410 ft.

GOVE COUNTY—Valerius et al, Todd 1, nw c 24-13-27w, 6-inch 4010 ft, co.

RUSSELL COUNTY — Austin Drlg. Co., Rockefeller 1, se c 6-13-12w, sd 1884 ft.

SALINE COUNTY—Twin Mounds Oil Co., Weis 1, c w½ ne nw 20-13-4w, td 2125 ft, sd.

DICKINSON COUNTY—Severs et al, Lerringood 1, ne sw 13-13-2e, 2205 ft, cr hole, sd. Krooger et al, Dische 1, c nw ne ne 17-13-2e, sil. L. 2935-43 ft, hfw, sd.

GOVE COUNTY — Johnson & Atlantic, Wright 1, c se ne 11-12-27w, spd.

PAWNEE COUNTY—Central Commercial, Helms 1, se ne 2-12-20w, 6-inch 3420 ft, dr 3683 ft.

DICKINSON COUNTY — E. H. Morgan, Whitehir 1, nw se 9-12-1e, sd 3215 ft.

ELLIS COUNTY—Byrens et al, Fisher 1, nw se 4-11-20w, td 1000 ft, sd.

RUSSELL COUNTY—Gilbreath et al, Bratton 1, c ne 33-11-13w, dr 1535 ft.

ROOKS COUNTY—Streeter & Stearns, Conger 1, c se nw ne 16-10-16w, dr 900 ft.

GRAHAM COUNTY—Gulf Coast Oil, St. Johns 6, ne sw se 27-8-25w, 8-inch 4360 ft, sd 4731 ft.

CLAY COUNTY—Chrisler, Tivier 1, sw c 19-8-3e, spd and sd.

MARSHALL COUNTY—Swicker & Simcox, Remple 1, c n½ nw 22-4-9e, sd 1245 ft.

WASHINGTON COUNTY — Simcox, Perwell 1, nw se ne 16-3-3e, sd 510 ft.

MARSHALL COUNTY—Blaxier et al, Runkel 1, se nw 13-2-6e, spd and sd.

NEBRASKA

FURNAS COUNTY — Graham Bros., Edwards 1, nw sw, 13-2n-22w, sd 3250 ft. Southwestern Pet. of Nebr., Montague 1, se sw sw 28-1n-22w, sd 1750 ft.

WEBSTER COUNTY — Mid-States Expl., Platt 1, c se, 31n-11w, 8-inch 2307 ft, dr 2370 ft.

COLORADO

ADAMS—N M. Slatt 1, se 27-25-64w, dr 2245 ft.

ARAPAHOE — McDebb Dr. Co.'s Fitzsimmons 1, 7-45-66, stand at 5692 ft. Merritt et al's U. P. 1, nw 17-5s-64w, shutting off water at 1305 ft.

ARCHULETA — Outwest Inc. Co.'s Fitzhough 1, se 34-33n-1e, resum 520 ft.

BACA—A. R Jones Oil & Optg. Co.'s Boice Cattle 1, 22-34s-42w, dr 3895 ft.

BOULDER—Reliance Oil Co.'s Anderson 1, se 19-3n-70w, dr 1000 ft.

DELTA—Crawford O&G Co.'s McKissen 1, se 18-3n-70w, dr 1000 ft.

DOLORES—Ohio Oil Co.'s Glade 1, nw 11-41n-16w, cem 6747 ft.

DOUGLAS—Perry Park Oil Co.'s Cannon 1, nw 11-9s-59w, dr 2000 ft.

EL PASO—Utemore Syndicate's Cannon 1, nw 10-16s-66w, stand 1100 ft.

GARFIELD—Fulton Pete Co.'s Permit 1, ne 8-8s-102w, dr 2750 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-59w, carry 6⅝-inch at 3686 ft.

HUERFANO—Parker Club-Kinney Coastal's Fee 1, se 4-2s-69w, sidetr 4116 ft. Ojo Exp. Co.'s Ojo 1, 5-29s-69w, abn 600 ft.

LARIMER—Smith et al's State 2, ne 36-12-70w, dr 255 ft. Donahoe et al, Maxwell 1, 25-8n-70w, sd 510 ft.

LA PLATA—McGarr Pete Co.'s Mesa 1, ne 27-33n-12w, dr 2800 ft. Klem Pete Corp's Olbert 1, se 9-35n-12w, co 2623 ft. Murchison Oil Co.'s Doescher 1, nw 9-33n-13w, stand 600 ft.

LINCOLN—Kelly Oil Co.'s State 1, 26-14s-57w, stand 3415 ft.

MESA—Argo Oil Co.'s Hoel 1, ne 23-8s-104w, re-drill from 2450 ft to 3000 ft.

MOFFATT—Vermilion Oil & Gas Synd.'s 1, se 23-9n-100w, stand 750 ft. Midwest's Hannawalt 24, 4-6n-92w, sd 3040 ft. Mtn Fuel Supply's State 2, tract 37-12-100, rig. S. H. Keoughon et al's State 1, se 15-4n-101w, dr 2510 ft.

MONTEZUMA—Haller et al's Haller 2, 33-36n-14w, dr 765 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-7w, dr 3100 ft.

PUEBLO—Kuykendall Oil Corp., 7-22-66, dr at 100 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-

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9s-76w, dr 1210 ft. So. Park O&G Co.'s Esche 1, ne 5-9s-76w, dr 515 ft.

ROUTT—Gorham et al, Onholt 1, 29-4n-87w, rigged up.

RIO BLANCO—Texas Prod. Co.'s Potter 1, se 30-2n-69w, gas at 5987 ft, blow to co.

WELD—Platte Valley Pete Corp 's Patterson 1, se 24-6n-61w, dr 6355 ft. Eastman Oil Co.'s Steel 1, ne 14-2n-67w, sd 165 ft.

WASHINGTON—Middlemist Oil Co.'s Middlemist 1, se 14-4s-56w, stand 1425 ft.

MONTANA

BIG HORN—Embar Dr. Co., 21-6s-36e, resume 3056 ft, to dd.

CASCADE—Andover Oil Co.'s Floweree 1, se 20-21-2w, stand 800 ft.

CHOTEAU—Coolidge & Coolidge, Lehnfelt 1, dr 200 ft.

FERGUS—Melton Corp 's 1, se 24-21n-17e, dr bel 2800 ft. Northern States Oil Co., Woodward 1, se 20-14n-24e, dr 150 ft.

GLACIER—Glacier Oil Co.'s Omberg 1, nw 33-35-5w, td 2450 ft. Texas Prod. Co.'s Small 1, 13-35n-6w, ur 10-inch, to carry, td 2650 ft top stray sand. Fulton Pete Corp.'s Blaekfeet 1, ne 28-36n-12w, dr 480 ft in 21-inch hole. O'Neil's Michaelson 1, se 28-36-5w, rigging up. B. & H. Oil Co.'s Haines 1, se 2-34-6w, wait for pipe 400 ft. Jefferies-Hoerr Dawson's 1, ne 7-31-12w, dr 1600 ft.

GOLDEN VALLEY — Golden Valley Oil Co.'s 1, se 28-6-22, dr bel 1400 ft. Texas Pacific's 1, sw 21-8s-21e, moving in material for rotary test.

LIBERTY—Northland O&G Co.'s Yurman 1, 36-33n-6e, dr 2480 ft. Sunburst O&R Co.'s McLaren 1, se 9-37-6e, dr 2860 ft. Utopia Oil Co.'s Eleanor Ass'n. 1, sw 11-33-6e, set 8-inch at 3020 ft. Western National Gas Co.'s H. Brown 1, nw 20-37-4e, dr 1200 ft.

MUSSELSHELL — Minnesota-Flatwillow's Ivanhoe Dome 1, 7-11-31, set 15-inch at 700 ft and dr ahead.

PETROLEUM — Minnesota - Flatwillow's 2, 5-13n-25e, rig burned, td 1840 ft. Oregon-Flatwillow's 1, 3-13n-26e, dr 300 ft.

PONDERA—Miller Bros.' Bruins 1, nw 17-28n-1w, spudded. Oil Well Drlg. Co.'s Van Daele 1, ne 36-30w-38, fish tools 4215 ft.

ROSEBUD—Prairie Oil & Gas Co.'s 1-X, 26-10-39e, run 15½-inch at 1275 ft.

SHERIDAN—Cheyenne O&G Co.'s 1, nw 15-36n-53e, to res at 1400 ft.

TETON—Andover Oil Co.'s Carlson 1, ne 5-24n-4w, td 300 ft. Newman et al's Fitzgerald 1, 26-32n-12, rig up. Rocky Mtn. O&G Co.'s Salmond 1, ne 4-23n-8w, resum 1750 ft. Midwest Ref. Co.'s Scott 36, ne 2-26n-6w, dr 2255 ft. Earl Oil Co., se¼ sec 22-22-8w, set 10-inch below 2000 ft.

TOOLE — International Royalty Holding Co.'s Henry 1, se 26-35-3e, dr 2410 ft. Vantana Oil Co.'s ePtedson 1, sw 22-34-4w, to resume 1967 ft. O. I. C. Gas Co.'s Wolland 1, se 11-34-2e, spudd.

VALLEY—Tex Pacific-Jones, nw 31-37-38e, test gas 1090 ft.

WYOMING

BIG HORN—Westland Oil, Inc., 1, 24-54-95, gas at 510 ft. Wisconsin Holdings, 5-55-97, sd 665 ft. Yellowstone ePte Co.'s 1, 7-57-97, oil show 4080 ft.

CARBON—Producers O&G Co.'s Blivens 1, 35-13-92, sd 2220 ft.

CROOK—Horth et al, se 9-56n-63w, location. Casper Pete Synd., ne 29-51n-63w, lcn.

FREMONT—Texas Prod. Co.'s State 1, 36-34-96, set 6⅝-inch, td 4472 ft. P. & R.'s 1, 33-34-92, coring at 4205 ft. Yellowstone Oil Co.'s 1, 15-38-94, dr 185 ft.

HOT SPRINGS—Midwest's Weeks 8, 5-55-98, cont'd show oil and gas 4210 ft. Ohio Oil Co.'s Smith 1, 8-46-99, wait for rotary 4403 ft. Gebo Con's 1, se 23-44-95, sd 1410 ft with 150 ft oil in hole.

JOHNSON — United Oil Co., 7-47-92, sd 1700 ft.

LINCOLN—Midwest's Grey's River 1, 25-37-117, dr 2510 ft. Mtn. Oil Corp.'s 1, 36-25-116, dr 927 ft. Wyo. Prod. Co.'s 1, 14-24-113, dr 915 ft.

NATRONA—Midwest's Midway 1, se 23-35-79, 500 bbls at 5215 ft. Cuyler Oil Co., sw 24-36n-86w, dr 785 ft. Summit Oil Co., nw 21-33n-80w, dr 600 ft. Tarrant et al, ne¼ nw¼ sec. 25-31-82, dr 300 ft.

NIOBRARA—West Virginia Synd., ne 7-35-62, undrr to 978 ft.

PARK—Resolute Oil Co.'s Badger-Bain 1, 17-27-101, dr 7300 ft. Cody Pete Co.'s Danker 1, se 22-57-98, rigging up.

SWEETWATER — Vermillion Oil Co.'s 1, se 16-12-99, stand with 10-inch, cem 2650 ft.

SHERIDAN—Pfeiffer et al, 6-57-84, lcn.

UINTA—Park City O&G Co., nw 6-51-111, dr 1340 ft.

WESTON—Gose Synd.'s 1, resume 28-47-65 ft. Updike et al's Fiddler Creek 1, 11-45-64, sd 1200 ft.

NEW MEXICO

DE BACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, co 3005 ft.

EDDY—Lockhart et al's Parker 2-X, 23-17-30e, dr 3270 ft.

LEA—Hobbs High Co.'s State 1, 35-18s-38e, sd 3860 ft. Tidal's Coleman 1, ne 17-21s-36e, dr 4100 ft. Atlantic Oil Co.'s State 1, 6-19s-38e, test 4201 ft. Tidal's Grimes 2, 29-18-38, dr 4130 ft. Tidal's Hardin 1, 19-18-38, 7000 bbls 4205 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18-9w, dr 3270 ft. Wms. et al's A. T. S. F. 1, sw 19-18-8w, dr 2300 ft.

QUAY—Silverstein et al's 1, 29-12n-33e, stand 85 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pete Co.'s Gov't 1, se 14-30-7w, sd 515 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, stand 1750 ft. Southern Union Gas Co.'s Day 1, se 20-28n-10w, dr 1950 ft. Childers Dr. & Pr. Co.'s Westwater 2, nw 23-31-10w, sd 2525 ft. Reserve Oil Co.'s Shafer 2, ne 1-21n-14w, sd 780 ft. Rio Grande Dev. Co.'s Lanier 2, 9-29-11w, stand 1380 ft. Continental Oil Co.'s Rattlesnake 24, 1-29-19w, spud.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, nw 14-15n-16e, wait 2355 ft. Starr Oil Co.'s Adams 1, ne 25-17n-16e, 8¼-inch at 3271 ft. Cibola Pete Co.'s Crown 1, se 9-13n-14e, resum 320 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 21-12n-22e, wtg for cas 1200 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, stand 1643 ft. J. B. Witt O&G Co.'s Kutchem 1, 12-17s-7e, dr 1244 ft.

VALENCIA—Acme Oil Co.'s N. M.-Ariz. Land Co.'s 1, 26-6-3, stand 4741 ft. Harlan et al's Harlan 2, 5-6n-2e, spud.

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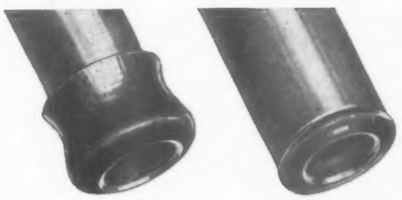

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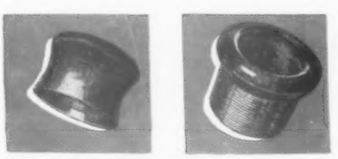


COLONA PIPE THREAD PROTECTORS

ARKANSAS

CHICOT COUNTY—H. R. Smith's Lytle 1, 31-18-3, dr rock 1906 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s Underwood 1, nw se 4-20-8, sp dr 100 ft.

CLEBURNE COUNTY — Cosden Oil Co.'s Donithan Lbr. Co. 1, 19-9-10, reset 8¼-in cas 3900 ft, dr black shale 4100 ft; Donnell et al's Fee 1, 33-11-9, dr lime 3165 ft.

COLUMBIA COUNTY—Sam Y. Dorfman's Merrick 1, 16-17-20, sd 2803 ft.

FRANKLIN COUNTY—Red Bank O'l Co.'s Hamm 1, 33-10-26, tested 3 to 4 mil ft gas top sand fsh tools td 3750 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3n-19w, sd in lime repr rig td 3750 ft.

HOT SPRINGS COUNTY—John Watkins, Tr.'s Cunningham 1, 11-5-16, dk; Cleary Bros. et al's Hinson 1, 19-4s-16w, set 15½ cas 20 ft, 12½-in cas 294 ft, 10-in cas 405 ft, 8¼-in cas 700 ft, did not set 6-in cas as reported ur 8¼-in cas to 847 ft, dr slate 1055 ft.

JOHNSON COUNTY—Ark. La. P. L. Co.'s Harvey 1, ne sw 14-10-24, lcn abn; Kelly 1, sw sw 14-10-24, dr 265 ft; Hudson 1, se ne 14-10-24, dk. Blackwell O&G Co.'s Wyver 1, 21-8-23, jarring out 6-in cas 2100 ft, td 5600 ft. Conn Gables et al's Holding 1, 20-9-25, sd 2238 ft.

LA FAYETTE COUNTY — Crawford Drilling Co.'s Vaughan 1, 25-19-25, rig up.

LAWRENCE COUNTY — Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

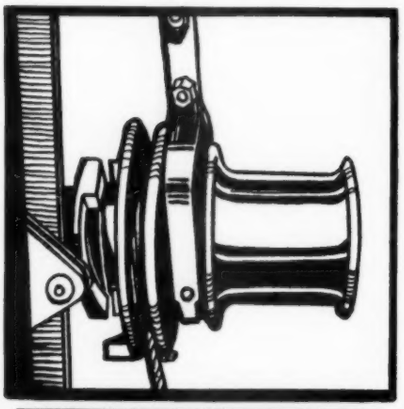
LITTLE RIVER COUNTY—Buck Oil Co.'s Taafe 1, 25-12-32, sd 2505 ft.

LINCOLN COUNTY—B. F. Thompson, Tr's McGehee 1, 8-8-7, rig up.

LOGAN COUNTY—M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft; J. H. Flowers' White 1, 13-5-26, ur 5 3/16-in cas 3570 ft, td 3610 ft.

MADISON COUNTY—J. W. Baxter's Hallem 1, 17-16-26, sd 540 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-15-26, dr 2700 ft; Lenz et al's Dale 1, 25-15-26, old hole arr deepen td 2842 ft; Johnson 2, se sw 24-15-26, sp set 10-in cas 121 ft, dr 1000 ft. East Texas O&G Dev Co.'s Hervey 1, (formerly Fee 1), 2-15-26, rig up.



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O'Mara et al's Person 1, 31-15-25, lcn. Big Bill Oil Co.'s Dean 1, nw sw 30-15-25, cor 2900 ft. Fitzwater et al's Beck 1, sw se 33-15-26, lcn.

OUACHITA COUNTY — Belmont et al's Dean 1, 16-15-17, arr ds test 2864-72 ft; A. B. Turner, Tr.'s Brown 1, 23-15-18, dr 200 ft; Graves et al's Walker Trustee 1, sw sw 9-14-18, sp set 10-in cas 80 ft sd for fuel 1300 ft; Copenhaver et al's Elliott 1, 11-15-17, dk.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, show heavy oil 567 ft, dr 816 ft.

POPE COUNTY—Ark. La. P. L. Co.'s McFadden & Brooks 2, ne sw 15-9-21, rig up.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, straightening hole td 1530 ft. Ark Valley Gas Co.'s Turner 1, se se 27-5n-30w, lcn.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29, tested sw wo td 3515 ft. Mansfield Gas Co.'s Fee 1, 1-4n-31w, sd for water 1027 ft. Ozark Nat. Gas Co.'s Bates 1, 28-8-30, dr 1950 ft. Lavaca O&G Co.'s Moore 1, nw sw 27-8-30w, sp dr 110 ft.

UNION COUNTY—Hickman et al's Hogg 1, 35-16-17, sd for water while fsh td 2157 ft. Marine Oil Co.'s W. B. Thompson B-2, 10-18-13, lcn; P. Winn Est. F-1, 10-18-13, dr red beds 3360 ft; Rice et al's Whatley 1, arr resume dr 92 ft; Malloy & Co.'s Burns 7, nw nw 31-17-15, rig up.

WASHINGTON COUNTY — Taylor et al's Runny 1, 1-13-29, fsh tools 1005 ft. Lincoln Lease Holding Synd's Townsite 1, 30-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, ta 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

NORTH LOUISIANA

Company, Well and Location	Depth	Initial Production Bbls.
BOSSIER PARISH—		
Triangle Drilling Co.'s Bolinger 1, 36-23-13	*	3524
CLAIBORNE PARISH (Sugar Creek)—		
Triangle Drilling Co., Cox Fee 1, 6-19-5w	¶35	4310
NATCHITOCHES PARISH—		
Robeline O&G Co., Winn 1, 7-8-9w..	*	1635
RED RIVER PARISH—		
Geo. L. Pace et al, Clarkson 1, 30-12-9	*	2906
RICHLAND PARISH—		
Austin & McDonald's Hunt 1, 13-17-5e	¶61	2431
SABINE PARISH (Zwolle)—		
Lacey Pet. Co., Tatum 1, 26-8-12....	500	2420

BIENVILLE PARISH — Triangle Drilling Co. et al's McDermott 1, 28-18-6w, tested 1 fourble mud 10 ft oil, ds set 6⅝ cas 2174 ft, bailed dry, td 2258 ft. S. P. Borden et al's Thomas 1, 27-16-9w, sr 3230 ft. Carter & Dobbs' White 1, 9-18-6w, dr 310 ft. Olds & Smith's Brice 1, 15-16-6w, top Cane River 530 ft, dr 1410 ft.

BOSSIER PARISH — Andrews & Davlin's Nattin 1, 15-22-14, 20 ft bro sand wo 1501 ft. Autrey Oil Co.'s Johnson 1, 34-19-11, sd for fuel 66 ft; McDade 1, 28-19-11, drl thru ds 2 ft sand 2012 ft, cor 2329 ft. H. I. Morgan & Shreveport-El Dorado P. L. Co.'s Kendrick-3, 22-19-11, tested sw thru ds 1896-99 ft in sand, cor 1902 ft. Triangle Drilling Co.'s Bolinger 1, 36-23-13, dry abn in shale, no cas set, td 3524 ft.

CADDO PARISH—L. B. Mawk's Swann 1, 23-21-14, sd 700 ft. Texas La. P. L. Co.'s Wall 1, 33-23-16, rig up. R. W. Norton's French 1, 34-23-16, lcn.

CATAHOULA PARISH — La. G&F Co.'s Tensas-Delta A-1, 23-6-5e, sd for fuel 2298 ft.

CLAIBORNE PARISH — El Dorado Chief Oil Co.'s Dance 1, 27-20-7w, sd 2240 ft. Triangle Drilling Co.'s Cox Fee 1, 6-19-5w, set 9-inch cas 3952 ft, completed in bro anhydrites, est 35 mil cu ft gas 1875 lbs rp., td 4310 ft. Baird Bros. et al's Whittaker 1, 30-20-7w, dr 1960 ft. Bough et al's Alexandria 1, 27-20-8w, sp set 10-inch cas 100 ft, dr 600 ft.

CALDWELL PARISH—Hudson et al's Burton 1, 35-12-2e, cor sand 1536 ft.

CONCORDIA PARISH—La. G&F Co. et al's Pittsfield Plantation 1, 41-8-10e, making 2 mil ft gas thru ¼-inch choke, td 1453 ft. (formerly A. C. Glassell et al's test). A. C. Glassell et al's Pecania Plantation 1, 46-8-9e.

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lcn. Britton Koontz Nat. Bank 1, 20-8-10e, lcn. Joe Marr et al's Maxwell 1, 35-3-8e, set 8-inch cas 2000 ft, arr dr in, td 2800 ft.

DE SOTO PARISH—Joe Burnham et al's Hood 1, 30-11-14, set 6⅝ cas 2290 ft, tested est 1 mil ft gas 2726-37 ft, sd wo, td 2762 ft. Mich-Louzanna O&G Dev. Corp.'s Payne 1, 12-11-16, sd wo 2070 ft. Gulf Ref. Co.'s Dry et al 1, 14-11-15, arr abn, td 3400 ft. Odell & Lawton's Tidwell 1, 11-13-14, tested sw show gas 3004 ft, arr plug bottom shut off sw. Holly Oil Co.'s Talbot 1, 9-13-13, rig up. Pelham & Bundy's Rhodes 1, 32-13-14, set 6⅝ cas 2800 ft, 2000 ft oil, 200 ft sw, hole made 1 head, wosr, td 3009 ft. J. W. Clark's Tidwell 1, 22-13-14, rig up. R. O. Roy's Nelson 2, 35-15-13, sp dr 300 ft. W. H. Weichert's H. Smith 1, 31-14-15, rig up. Standard Oil Co. of La.'s Dowling Bros. 2, 5-13-13, 7-inch cas 2800 ft, 8 ft bro sand, wosr, td 2840 ft; Farmer A-3, nw ne 5-13-13, dr chalk 1832 ft. S. A. Guy et al's Dowling Bros. 1, 31-14-14, rig up.

MOREHOUSE PARISH—Pelican Nat. Gas Co.'s Tensas Delta 1, 17-18-6e, dr 2275 ft.

NATCHITOCHES PARISH—W. M. Coats et al's Collins 1, 28-9-10, set 6⅝ cas 2224 ft, cor 2550 ft. J. W. Cooper et al's Cooper 1, 35-11-10, arr ds test in chalk rock 1280-90 ft. Robeline O&G Co.'s Winn 1, 7-8-9w, dry abn in rock, td 1635 ft. S. D. McDaniels' Clark-Morse 2, 23-5-6w, sd 2536 ft.

OUACHITA PARISH — C. W. Frierson's Haynes 1, se sw 9-17-3e, set 12¼-inch cas 120 ft, dr 780 ft.

RED RIVER PARISH—E. C. Lucas' La. Delta Pecan 1, 34-13-11, set 6-inch cas 2440 ft, 17 ft sand, wosr, td 2476 ft. Geo. L. Pace et al's Clarkson 1, 30-12-9, dry abn in shale, td 2906 ft. Lucky Strike Oil Co.'s Chaffraix 1, 33-12-10, dr 2400 ft. T. G. Shaw's Wilkinson 1, 4-12-10w, lcn.

RICHLAND PARISH — Austin & McDonald's Hunt 1, 13-17-5e, set 8-inch cas 921 ft, making 61 mil ft gas, 1050 lbs. r.p., td in shale 2431 ft. W. C. Feazel's Landrum 1, 6-16-7e, dk. Island O&G Co.'s Nos 1, 3-16-5e, set 6-inch cas 2350 ft.

SABINE PARISH — Magnolia Pet. Co.'s Giaque 1, 26-7-14, dr 2645 ft. McDaniels et al's Batson 2, 16-8-12, dr 1850 ft. Loring Oil Co.'s Shull 2, 26-8-12, top chalk 2389 ft, set 6-inch cas 2320 ft, tested dry 2391 ft, blg to test, td 2640 ft; Schuffert 1, 27-8-12, set 6⅝ cas 2376 ft, 500 ft oil hole, wosr, td 2450 ft Huber & Mann's Newton 1, 26-8-12, set 6⅝ cas 2260 ft, top chalk 2333 ft, hfo, heading, wosr, td 2417 ft. Lanier & Tarver's Newton 1, 25-8-12, sd for water 90 ft. Texas Co.'s Giaque 1, 27-8-12, TA 2422 ft. Lacey Barkett Oil Co.'s D'Anna 1, 26-8-12, dr 1602 ft. Lacey Pet. Co.'s Tatum 1, 26-8-12, set 6⅝ cas 2263 ft, flowing 500 bbls oil day, td 2420 ft in chalk rock. Ark. Fuel Oil Co.'s Russell 1, 26-8-12, sd for water 1525 ft R. L. Gay, Tr.'s, Bowman-Hicks 8, 18-7-13, plugged back to 2492 ft, wo cement old td 2552 ft. Sabine Lbr. Co. 5, 15-7-14, top marl 2116 ft, set 6⅝ cas 2104 ft, dr 2281 ft. Le Grande et al's J. W. Hale 1, 1-7-13, lcn. D. H. Reddick et al's Scretchfield 1, 18-9-12, sd 3280 ft. Paramount O&G Co.'s Woolums 1, 11-6-12, changing to heavy rig, td 2225 ft Zeke Lohman's Wyatt Lbr. Co. 1, 18-4-11, partly rigged up, wo. Lohman & Walker's Hubley 1, 21-7-11, set 6-inch cas 1235 ft, tested dry, wo, td 1356 ft. Pelican Nat. Gas Co.'s La. Long Leaf 4, 4-7-11, set 6-inch cas 2275 ft, bailed dry at 2295 ft, dry at 2354 ft, dr black shale 2420 ft. La. Long Leaf 5, nw sw 4-7-11, lcn; Sabine Lbr. Co. 4, 11-7-12, sp 10-inch cas 98 ft, dr 300 ft Philp et al's Turner 1, nw nw 4-7-11, lcn. G. D. Neff, Tr.'s, Turner A-1, 4-7-11, sp, dr 670 ft. Loring Oil Co.'s Garner 1, 4-7-11, rig up; Trammell 1, 4-7-11, dr 1953 ft. Stacey et al's Polly 1, 18-8-12, rig up. Longoria et al's Belton 1, 31-9-12, rig up. A. C Glassell's Logan Oil Co. 1, 23-10-13, sd wo water 1800 ft. Franks et al's Hays 1, 22-8-11, dk. David M. Lide's Ponder 1, 15-17-11, lcn.

TENSAS PARISH—A. R. Willis' Curry 1, 39-11-12, sd 2300 ft. Stovall Drilling Co.'s Miller 1, 18-10-10e, dr shale 1435 ft

WEBSTER PARISH — Sarepta Oil Co.'s Gardner 3, 6-22-10, dk. Ideal O&G Co.'s Coyle 1, 24-23-11, dk. J. P. Evans et al's Crichton 1, 31-18-8w, sd for water 2008 ft. D. H. Coyle, Tr.'s, Frasier 1, ne se 27-23-11, dk.

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DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, sd 1881 ft.

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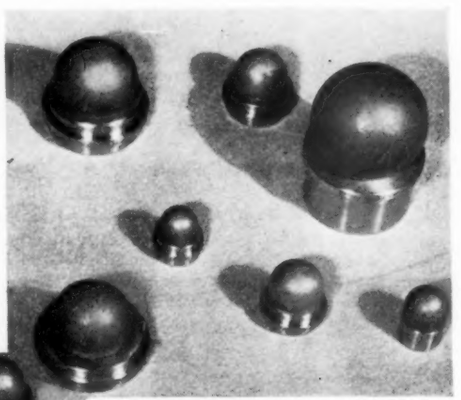

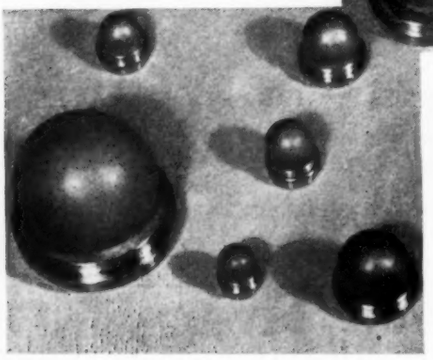

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MISSISSIPPI

Company, Well and Location	Initial Production Bbls.	Depth
HINDS COUNTY (Jackson Dist.)—		
Dome O. & G. Co., Elton 1, 5-4-1e...	*	2805
Feazel O. & G. Co. Millstein 1, 2-5-1e	¶35	2441

ALCORN COUNTY—Alcorn Pet. Co.'s Matthews 1, 14-2s-7s, fsh junk td 2735 ft.

CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, ne ne 16-15s-5e, sp.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 30-13-3, dr 1460 ft.

HINDS COUNTY (Jackson District)—Mrs. Ella Rawls Reeder's State Land 1, 25-6-1e, sd 2905 ft. Dome O&G Co.'s Elton 1, 5-4-1e, dry abn in hard gray sand, td 2805 ft. Jackson O&G Co.'s Central Cotton 1, 3-5-1e, dk; Mayes 2, 2-5-1e, set 6⅝ cas top Midway shale 2482 ft, top Midway chalk 2581 ft, sd wo in chalk and shells, td 2737 ft, elev 269 ft. Love Pet. Co.'s Morton 1, 34-6-1e, dk; Ridgeway 1, 2-5-1e, top Midway shale 2367 ft, set 6⅝-inch cas top Midway chalk 2455 ft, td 2466 ft; Maley 1, se nw 15-5-1e, sp. Love Prod. Co.'s Crisler 1, nw sw 2-5-1e, top Midway shale 2373 ft, elev 269 ft set 6⅝ cas top chalk 2468 ft. Miss. Tex. Oil Co.'s Negro Fair Assn. 1, 28-6-1e, sd in sand and shale 1902 ft, cur titles. Tri-State O&G Co.'s Wilson 1, 23-6-1e, dk. Universal O&G Co.'s Holiday & Ross 1, 8-6-2e, ta 2653 ft; Sharbrough 1, 28-6-1e, set 10-inch cas 88 ft, wo. Feazel O&G Co.'s Millstein 1, 2-5-1e, topped Midway shale 2324 ft, top Midway chalk 2434 ft, set 6⅝ cas 2425 ft, making 35 mil ft gas, td 2441 ft. Gulf Ref. Co.'s Crane-Lawrence 1, cen ne ¼ 26-6-1e, set 9-inch cas on bot 2352 ftfi dr in; City of Jackson 1, ne se 10-5-1e, top Midway shale 2361 ft, elev 2546 ft, arr set cas, td 2374 ft. Miss Pet. Co.'s Solvent Inv. 1, 14-5-1w, dr 1100 ft; Baptist Orphanage 1, se se 28-6-1e, sp. Le Fleur O&G Co.'s Chadwick & Brown 1, sw nw 11-5-1e, set 15½ in cas 32 ft, dr 50 ft. Kennedy et al's Fee 1, ne ne 34-6-1e, lcn. Hawkeye Gas Co.'s Webster 1, ne nw 15-5-1e, dk.

KEMPER COUNTY (De Kalb Dist.)—W. W. Jones' Rosenbaum 1, lcn not given, dk.

LA FAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rigged up, wo.

MADISON COUNTY (Jackson Dist.)—Miss. Pet. Co.'s Raymond 1, nw sw 32-7-2e, set 12½-inch cas in blue gmbo 706 ft.

MONROE COUNTY (Amory Dist.)—Amory Dev. Co.'s Bourland 1, 2-13-19, sd wo 2912 ft. Park Bowser's Cowart 1, 2-12-19, sd 85 ft. Associated Royalties' School Board 1, 16-15-17w, sd 60 ft.

RANKIN COUNTY (Jackson Dist.)—Love Pet. Co.'s Moore 1, 28-6-2e, sd 900 ft. Redmond et al's Graves 1, 12-5-1e, re-bldg dk. Pearl River O&G Co.'s Pate 1, 12-5-1e, top Midway shale 2331 ft, set 6⅝ cas 2400 ft, arr dr in. Southern Pet. Co.'s Investment 1, 12-5-1e, dr rock 1300 ft. Millstein O&G Corp.'s Hartfield 1, se ne 12-5-1e, set 15½-inch cas 20 ft, set 10-inch cas 690 ft.

WARREN COUNTY (Vicksburg Dist.)—Henderson et al's Dornbusch 1, 8-18-15, sd with ds in hole, td 2475 ft.

WEBSTER COUNTY — Cumberland Oil Co.'s Henley 1, 15-21-11, ta 1865 ft.

WINSTON COUNTY (Louisville Dist.)—Mississippi Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, dk.

YALABOUSHA COUNTY (Water Valley Dist.)—J. D. Collett et al's Blackmer 1, se nw 14-11-4w, hole cleaned r to set 8¼-inch cas at 2425 ft, td 2434 ft.

ALABAMA

HOUSTON COUNTY—J. R. Sealey et al's Fee 1, 13-1n-27e, changing from cable tools to rotary, td 3100 ft.

LAUDERDALE COUNTY — P. J. McAlpine's O'Neal Hrs. 1, 8-2s-13w, re-set 8¼-inch cas in hd white lime 2060 ft, dr white lime 2215 ft.

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, fsh for cas, td 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, ta 1200 ft; Fee 2, 3-18-1w, rig up wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft; Hobson Bros. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, no report.

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There was a time when a man buying a pair of pants expected at least a pair of suspenders thrown in free. Out of this grew the plan of selling the suspenders and giving away the pants!

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The OIL WEEKLY

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Combination Maps

Descriptions and prices on application

HEYDRICK MAPPING COMPANY

Wichita Falls, Texas

WANTED—by oil company, first-class salesman to develop into Sales Manager, one who is thoroughly familiar with tank car sales in Texas and Southern States. Give experience, age, family, and salary expected. Address Box 714, care The Oil Weekly, Houston, Texas.

LETTERS

* * *

I want to thank those subscribers to THE OIL WEEKLY who, in response to my letter asking for suggestions, etc., have responded. I am sure that out of the many suggestions so kindly made, a number will develop into regular features of THE OIL WEEKLY.

To those who have not yet responded, I would say that we will appreciate your filling out the questionnaire—that we hope that our "pulse feeler" brings a most substantial response and that you sincerely include on your questionnaire blank any suggestions you may have for editorial features in THE OIL WEEKLY.

EDITOR.

* * *

Am just advised your last issue carried statement that Cities Service was negotiating purchase our company at $6,000,000 stop Difficult to understand why your good publication should issue such statement without some verification especially when figures are quoted stop No deal of this nature even considered and will appreciate your correction next issue.

T. H. BARTON,
President Lion Oil Refining Company.

Consolidations and mergers in the oil industry are apparently without end. Expansion programs of the more integrated companies have connected in rumor, if not in fact, the properties of practically every independent concern of consequence.

The number and magnitude of recent transactions have been such as to confuse even those who make a business of recording such deals.

THE OIL WEEKLY regrets that the rumored sale of the Lion Oil Refining Company was printed without first giving officials of that company an opportunity to verify or deny such negotiations.

American Mining Congress Information Service of September 4 reveals the fact that the Geological Survey has proved occurrences of petroleum in Northern Alaska. Survey of 35,000 square miles of territory which comprises a naval petroleum reserve set aside from entry by executive order a few months ago, has been basis for this report. Information concerning extent of exploitations has not been divulged and quantities of oil likely to be found are still a matter of conjecture.

Leonard Price has resigned as assistan manager of purchases for Richfield Oil Company of California to become district manager of Thermoid Rubber Company in California.

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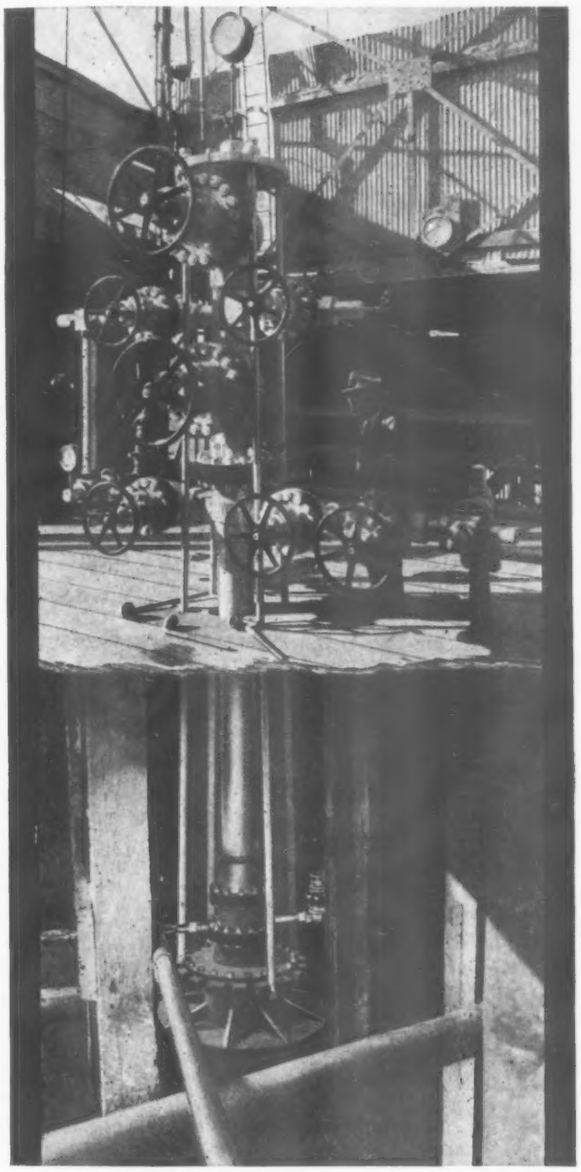

View of a high-pressure installation recently made at Kettleman Hills. This installation consists of 6000-lb. test equipment, including Regan T..B. & R. control head, Regan tubing head, Christmas tree fittings and high-pressure gate valves.

The HIGHEST PRESSURES ARE Regan-controlled

Ask for new Regan Control Head Bulletin No. 50

Regan Type C equipment is designed for high pressure, regardless of size, each part being individually tested to 6,000 lbs. Our facilities provide for testing this equipment completely assembled, including Christmas tree and valves. Bolting and flanges are built to A.E..S.C. 1350 Series, with all other portions built into proportion.

The illustration to the right shows one of many hook-up combinations possible with Types A, B or C Regan Control Equipment, and consists of three strings of casing suspended from the casing head, using high tensile long thread Santa Fe couplings, the largest string of casing being suspended from a landing base. A special extra-heavy four-way fitting is inserted between the extra-heavy hydraulic pipe riser and the casing head. The tubing head is extra-large in size to accommodate casing used in place of tubing. The tubing head body is of special construction and is privided with extra-heavy male vents.

A complete hook-up with the Christmas tree adapts itself to high volume production as well as high pressure and provides three sets of flow lines, the two lower sets being for gas take-off. The use of a heavy plate above the tree, in combination with the landing base, provides for use of extra-heavy tie bolts.

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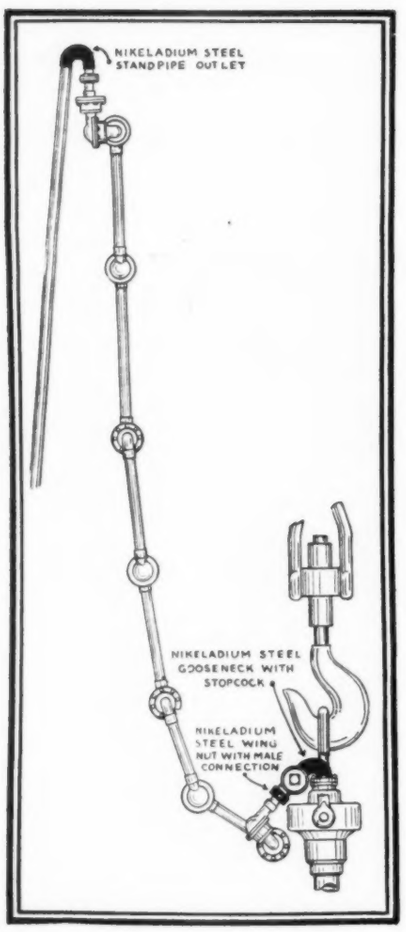
Super-Strength for the HIGH PRESSURE POINTS *of your Steel Rotary Hose .....*


NIKELADIUM STEEL STANDPIPE OUTLET
NIKELADIUM STEEL GOOSENECK WITH STOPCOCK
NIKELADIUM STEEL WING NUT WITH MALE CONNECTION

Champion Nikeladium Steel Connections make your Champion All-Steel Rotary Hose 100% in strength and safety from swivel to standpipe.

THE menace of high pressures and excessive sand abrasion have been completely overcome with Champion NIKELADIUM Steel Connections.

Repeated tests made under the most extreme pressure have proved that NIKELADIUM Steel, from which Champion Nikeladium Steel Connections are made, possesses more strength per square inch than any other steel of similar type. The Champion NIKELADIUM Gooseneck will withstand a deflection test of 122 tons, before showing any signs of stress. All other Champion NIKELADIUM Steel Hose sections are made with corresponding strength ratios.

NIKELADIUM Steel is **Exclusively Controlled** by us for use in the Champion All-Steel Rotary Hose.

GUARANTEE

Champion NIKELADIUM Steel Connections are positively guaranteed against breakage, when used for the purposes for which they are manufactured.

They test as follows:

Tensile Strength	around 100,000 lbs. per sq. inch
Yield Point	over 60,000 lbs. per sq. inch
Elongation	over 20%
Reduction of Area	over 30%

Champion NIKELADIUM Steel Connections include the following: Male Hose Connection—Female Hose Connection—45 Degree Nikeladium Steel Standpipe Outlet—Nikeladium Steel Wing Nut Connection — Nikeladium Steel Gooseneck (plain)—Nikeladium Steel Gooseneck with Shut-Off Cock—Nikeladium Steel Vertical Standpipe Outlet. They may be purchased separately as needed, and all are interchangeable with both 5 and 7 joint hose.

See our Exhibit at Tulsa. Booths 6, 7, 8 and 9. California Building

Champion All-Steel Rotary Hose is equipped throughout with Nikeladium fittings. Make it 100% from swivel to standpipe by using Champion Nikeladium Steel connections only.

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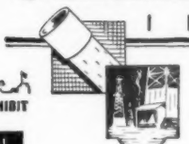

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New Equipment for the Field

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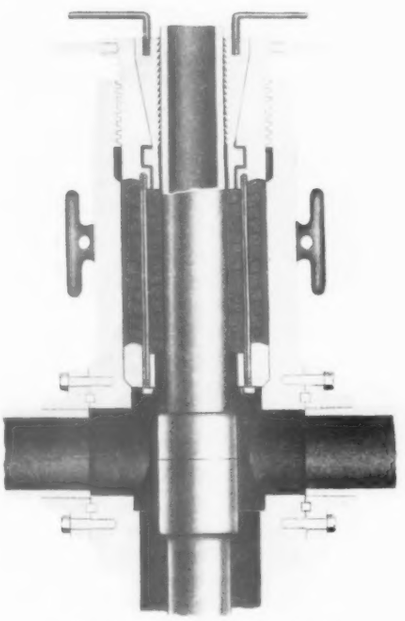
Combination Blowout Preventer

HOUSTON CAR WHEEL & MACHINE COMPANY

Houston Car Wheel & Machine Company announces it has perfected and is ready to market its new Eveready combination blowout preventer. In addition to acting promptly and positively in preventing blowouts, this device is designed to permit rotary drilling under pressure, and pulling the drill stem and running it back in the hole under pressure.

By providing a leak proof seal between the Kelly joint and casing, the new preventer is designed to permit a back pressure of any desired amount to put on "cavey" formations while drilling to permit high pressure oil and gas sands to be drilled in under perfect control; to permit the drill stem to be rotated while killing a well by mudding off; and, by enabling the driller to keep a back pressure on his drilling mud, to limit gas cutting of the fluid. The tool is also for use in running or snubbing tubing, liner or screen against well pressures.

Extensive experiments and tests, conducted over a period of six months with a 6⅝-inch A. P. I. model, have resulted favorably. The new Eveready preventer, under all pressures, offers control of high pressures while carrying on a wide variety of operations, heretofore considered unreasonable to undertake with anything but a hydraulic rotary. Hydraulic pressures up to and including 5000 pounds have failed to produce the leak past the Kelly joint, under test.

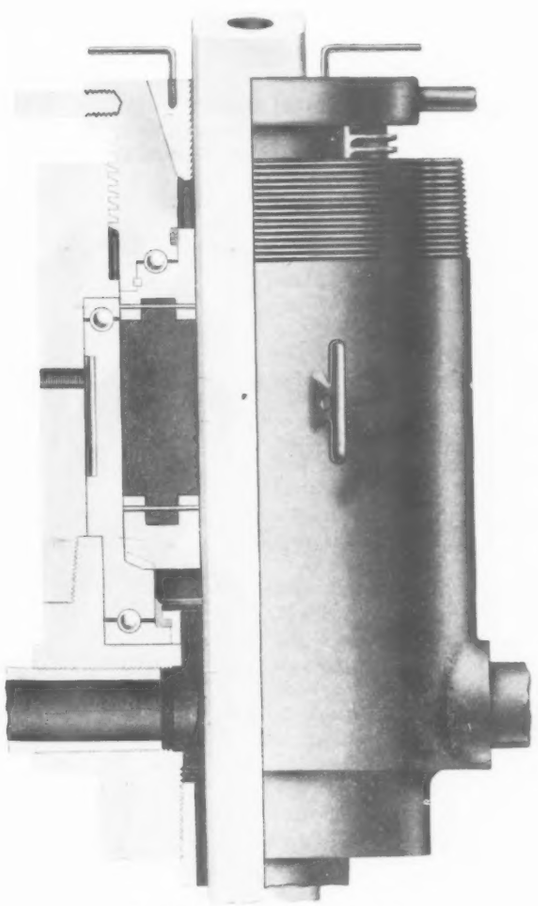


Eveready Blowout Preventer

In operation, the Eveready combination blowout preventer is simple. It is controlled from the derrick floor, is set by lowering the Kelly joint several feet, and is locked by a quarter turn of the rotary.

The Eveready preventer is of heavy steel construction, and will be furnished for use on any specified working pressures. All units will be given a thorough hydraulic test before leaving the plant.

The main body of the preventer, designed to keep weight to a minimum and to occupy but a small space in the cellar, screws on the casing. Inside the main body is a heavy steel sleeve, backed by special roller bearings which are high pressure lubricated from the outside, and mounted top and bottom on large ball races. The packing ram, which makes the shut-off when desired, seals in this sleeve, to permit the ram and Kelly joint to be rotated in the main body of the preventer. The packing ram is carried on the Kelly joint while drilling. In event of a threatened blowout, the drive bushings are removed and a set of self-locking slips placed in a spider on top of the packing ram. The packing ram is then lowered on the Kelly joint and stabbed in the main body of the preventer. A quarter turn of the rotary locks the ram in place. The ram packer can then be collapsed either by letting down the weight of the drill stem, or by taking an upward strain on



Eveready Blowout Preventer

the drill stem. Pressure building up under the packing ram tightens the seal in proportion to the amount of pressure.

A second type of packing ram is supplied for use in handling drill stem or tubing through the Eveready preventer. The rubbers of this type of packer have alternating square and round openings, which allow for expansion as collars or tool joints pass through the preventer. Another type of packing ram is provided for use when the drill stem has been removed from the well, consisting of a locking device to shut off the casing.

The company is also manufacturing another type of Eveready blowout preventer, similar in design to the combination type, but which does not have the rotating sleeve incorporated in its design. This preventer permits of limited rotation under limited pressure.

The oilfield division of Houston Car Wheel & Machine Company will exhibit a full-sized working model of each of these two types of Eveready blowout preventers at the International Petroleum Exposition, Tulsa. The preventers will be connected with hydraulic pumps, and arranged for quick demonstration.

Gas Engine Driven Welder

LINCOLN ELECTRIC COMPANY

Lincola Electric Company, Cleveland, Ohio, has recently placed on the market a new gas engine driven welder with a rating of 400 amperes with a current range up to 500 amperes, and is of the variable voltage single operator type. The working mechanism of all controlls are contained in a ventilated enclosed steel cabinet with hand regulators and switches mounted on a panel which forms a side of the cabinet. The control panel contains rheostat, diverter switch, voltammeter and wing nut terminals for cables. This unified control greatly increases the simplicity of the operation of the welder. The control cabinet is mounted directly over the generator for easy access by the welding operator. The commutator of both the welding generator and exciter are provided with covers for protection and also to prevent anything falling on and injuring the commutator.

Lincoln Welder

It is driven by a six cylinder engine with an S.A.E. rating of 33.75 and a brake horsepower at 1500 r.p.m. of 55. The cylinder size is 3¾ by five with a total displacement of 330 cubic inches. The outfit is equipped with an automatic throttle control which permits the engine to idle at about half speed when the arc is not going. When the arc is struck the engine immediately comes up to full speed. Provision is made by a time delay to keep the engine going at full speed when the arc is momentarily broken and will not slow down for a predetermined time interval after breaking the arc.

The whole equipment is provided with a metal cover with removable metal sides. The sides are inter-locking so the cover and sides can all be locked with a padlock and key.

Wheels are optional.

When furnished they are of six inches wide tread and a fifth wheel is provided for short turning. The overall dimensions, exclusive of wheels are 104 inches by 32 inches by 58 inches and the weight approximately 3500 pounds.

Oil Bath Swivel

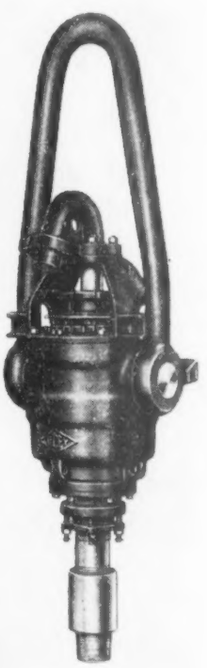
LUCEY PRODUCTS CORPORATION

Lucey Products Corporation, Tulsa, has recently announced the new Lucey type E-6500-A "Quad" oil bath swivel which is equipped with four heavy duty roller bearings. Each bearing has been designed especially for a particular duty to which it is adapted.

The upper thrust bearing is an SKF ball bearing, designed exclusively for upward thrusts. Its construction is especially adaptable to the use of pull down devices used when spudding in or drilling at shallow depths. The main load bearing is a Timken tapered roller bearing designed specially for swivel duty. This giant bearing is designed for a load of 365,000 pounds at 100 r.p.m. Two American heavy duty roller sleeve type bearings absorb radial thrusts, to relieve all other bearings of this duty. These bearings align the swivel stem, to minimize wear on all packing, and packing glands.

The swivel body has an oil capacity of 10 gallons, and is braced at the top by the swivel bonnet, an exclusive Lucey design. At the point where the bonnet presses into the body is a projection of considerable proportion. The outside diameter of this projection is machined where it presses into the body. Thus, the bonnet forms a brace across the top of the body to eliminate the liability of the body crushing under sudden severe shocks.

The swivel bail and trunions are oversize, and the bail is forged from a solid steel billet and machined at the point where the trunions pass through it. This feature is to make the swivel hang straight so that no unequal loads will be placed on the bearings. All stuffing boxes are deep enough to provide an abundance of packing. The goose-neck is extra heavy, and bends at a 20 degree angle, to allow the rotary hose to hang almost perpendicular and minimize throbbing and pounding of the hose. The goose-neck has full three-inch opening for fluid, as does the swivel throughout.



Lucey Oil Bath Swivel

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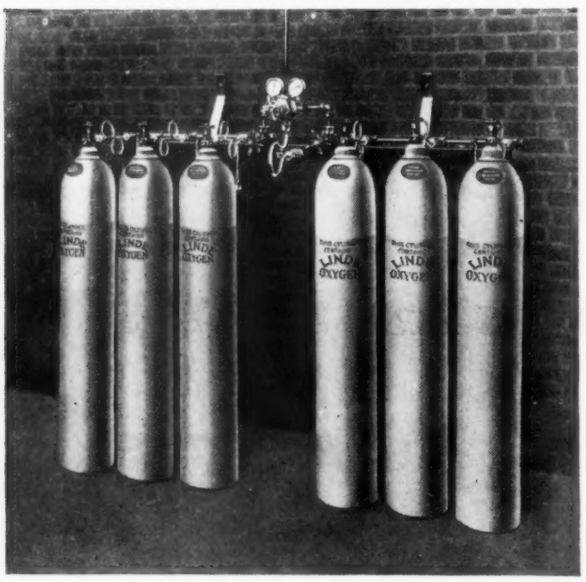
NEW EQUIPMENT FOR THE FIELD



Six Cylinder Installation

Oxygen and Acetylene Manifolds

OXWELD ACETYLENE COMPANY

Oxweld Acetylene Company, 30 East 42 street, New York, has introduced two small capacity manifolds. Where it is necessary to have a number of welding stations and the consumption of gases is not large enough to warrant the installation of an acetylene generator and large oxygen manifold, these small manifolds offer an effective means of having a piped supply of gases.

The six-cylinder oxygen manifold is of the wall type and has the duplex feature just as larger Oxweld manifolds have, so that three cylinders may be changed while the bank of three on the other side is maintaining the supply of oxygen.

The four-cylinder acetylene manifold is also of the wall type. Each cylinder lead has a valve in the header so that each cylinder is independent of the others, making it possible to use either one, two, three or four cylinders at the same time so that a cylinder may be replaced without shutting off the acetylene supply. Each cylinder connection is fitted with the approved Prest-O-Lite flash arrestor. The manifold is supplied with connections for Prest-O-Lite cylinders.

The four-cylinder acetylene manifold is designed for installations where piped acetylene is required and where the installation of a generator would not be feasible. The installation of these manifolds must conform with all standard regulations and the advice of the manufacturer should be obtained before making an installation.

These two manifolds have been designed particularly for use by welding schools and are in use at present at a number of aircraft schools in different parts of the country. Distribution lines from the manifolds supply the gases to each welding station in a way that permits each student to work most efficiently. The increased amount of instruction in welding being given in leading industrial and engineering schools and the establishment of schools especially to teach welding has led to the development of this new apparatus.

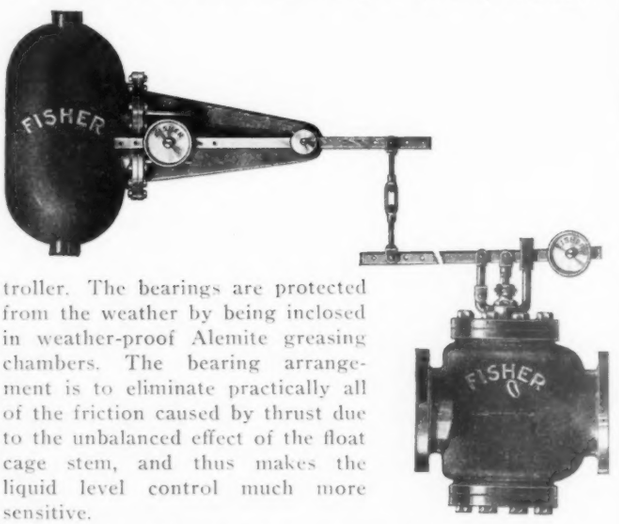
Four Cylinder Installation

Ball Bearing Stuffing Box

FISHER GOVERNOR COMPANY

Fisher Governor Company, Inc., Marshalltown, Iowa, announces a new ball bearing stuffing box for the float cage of the Fisher Type 227-A liquid level controller.

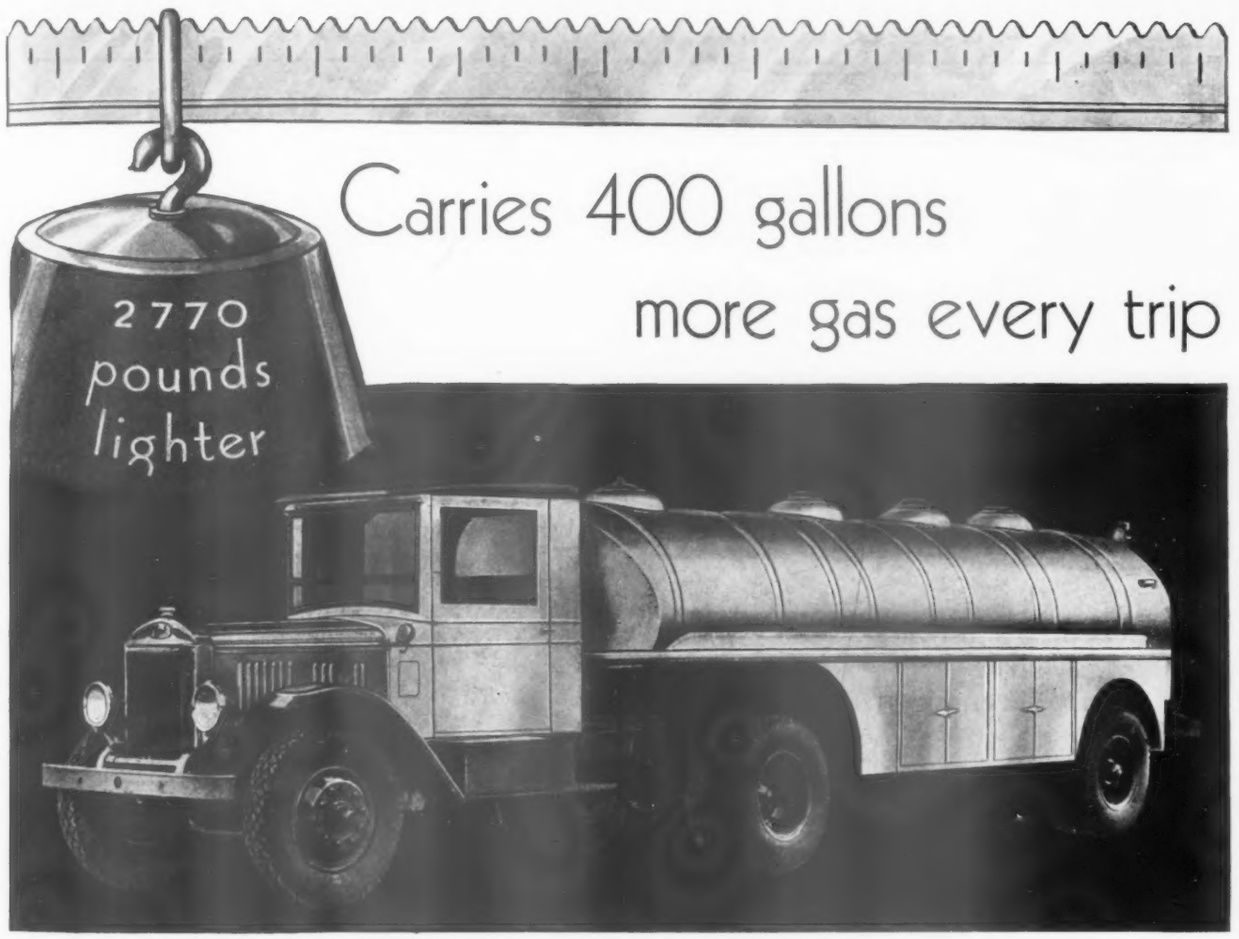
The new stuffing box has external bearings which are not in contact with the fluid being handled by the con-



troller. The bearings are protected from the weather by being inclosed in weather-proof Alemite greasing chambers. The bearing arrangement is to eliminate practically all of the friction caused by thrust due to the unbalanced effect of the float cage stem, and thus makes the liquid level control much more sensitive.

The Fisher Type 227-A is a liquid level controller or regulator for holding a predetermined level of liquid in such apparatus as pipe lines, closed tanks, receivers, stills, absorber towers, heaters, and condensers where an external float is preferred.

Bulletin No. 31, recently published by Fisher Governor Company to supersede liquid level controller Bulletin No. 30, describes in detail the design, construction and operation of the company's controller. A copy of this bulletin is available upon request to the company.



Carries 400 gallons more gas every trip

2770 lbs. of surplus dead-weight went into the discard—400 gals. more gas were carried every trip—when the tank on this truck was changed from heavy, old-fashioned construction to the light, strong Alloys of Alcoa Aluminum.

The value of the change was quickly seen in dollars and cents. Operating the normal 5 trips per day meant that the truck hauled 2000 gals. more gas. Figured at an average delivery cost of one cent a gallon, the change brought an extra return of $20 a day.

Do a little figuring on your own fleet. If you are operating old-type trucks of 2000 gal. tankage, a change to Alcoa Aluminum tanks would mean that you could carry 400 gals. more gas per trip. You would get every 5th load free. A fleet of 4 trucks could do the work now needing 5.

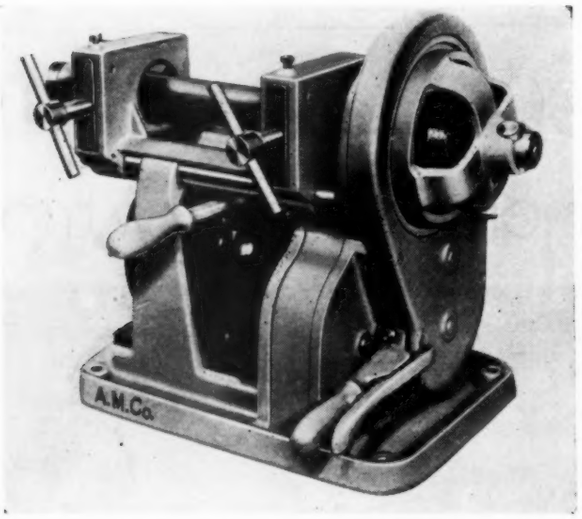
Truck bodies built of the light, strong Alloys of Alcoa Aluminum cost somewhat more—but they earn more. They cost less to maintain. They save money in painting. They have a high scrap value.

Old-fashioned truck bodies, that cost you real money to haul their surplus dead-weight, prey on your profits. Get rid of them. Our nearest office will gladly send you and your body builder specific information on the application of Alcoa Aluminum Alloys to your present equipment. Address ALUMINUM COMPANY of AMERICA; 2419 Oliver Building, PITTSBURGH, PENNSYLVANIA.

ALCOA

ALCOA ALUMINUM

NEW EQUIPMENT FOR THE FIELD



Axelson Pipe Threading Machine

Pipe Threading Machine
AXELSON MANUFACTURING COMPANY

Axelson Manufacturing Company, Ltd., Los Angeles, has developed a new pipe threading machine, designed for a wide range of uses. Pipe to be threaded remains stationary while the standard square die is revolved, cutting the thread.

The pipe is gripped by two jaw chucks which are practically automatic. Threads can be cut on material from one-half-inch to two inches in diameter, and the power is supplied from a one-half horsepower compound wound motor, installed directly beneath the pipe holder brackets. Electric current of 110 or 120 volts, either 50 or 60 cycle, may be applied.

The required time for completing 11 threads is approximately 40 seconds, according to the manufacturer's estimate. After the threads are completed the dies are reversed and during this operation rotate 34 r.p.m.

A bulletin describing the new pipe threader is available from the company, Box 337, Los Angeles.

Topeka, Kansas.—The State Geological Survey of Kansas has announced the publication of two new maps by Raymond C. Moore, state geologist.

"The Surface Features of Kansas," is a black and white map with the topography portrayed in a birdseye pictorial fashion. The principal physiographic units are named on the map and described in a few paragraphs beneath. The map dimensions are 10 by 20 inches, drawn on a scale of 20 miles to the inch. There is also included a cross section and explanation 23 by 24 inches.

"Geologic Map of Kansas," is a preliminary and generalized colored geologic map of the state using the above physiographic map as a base. An east-west geologic cross-section and a popular worded description of geologic features are included. The scale is 20 miles to the inch and dimensions of the map are 10 by 20 inches and for the cross-section and explanation, 23½ by 25½ inches. Copies may be obtained at 10 cents each by addressing the State Geological Survey of Kansas, Lawrence, Kansas.

New Pole Roof
INTERNATIONAL CREOSOTING & CONSTRUCTION COMPANY

International Creosoting & Construction Company, Galveston, Texas, has developed a new type of roof for telephone or power line poles. It is a one-way roof of 15 degrees with the cut so made that it drains water away from the gain. This new roof cut is made to get away from leaving a minimum of wood at the center of the pole inasmuch as that is the natural cleavage point of the pole, and therefore reduces the checking of the pole. As the roof of the pole weathers, the springwood rings, being softer than the summerwood, weather faster, causing the summerwood to stand out. On the one-way roof these cups are allowed to drain.

Globe Oil Tools Company, Los Nietos, California, has issued bulletins giving full details concerning some of the latest improvements and additions to its lines of drilling and coring equipment.

Bulletin No. 8-A features the company's new B-2 and M-5 drilling bits, Model 5 drilling reamer, and Model M rock bit and 3-Point reamer.

The company also announces a new bulletin, No. 9-A, concerning the hard-facing products; Anglite, Diamond-sub metals, made in six different types for every rotary drilling tool, and Drillite, "The Metallic Diamond-Sub Paste."

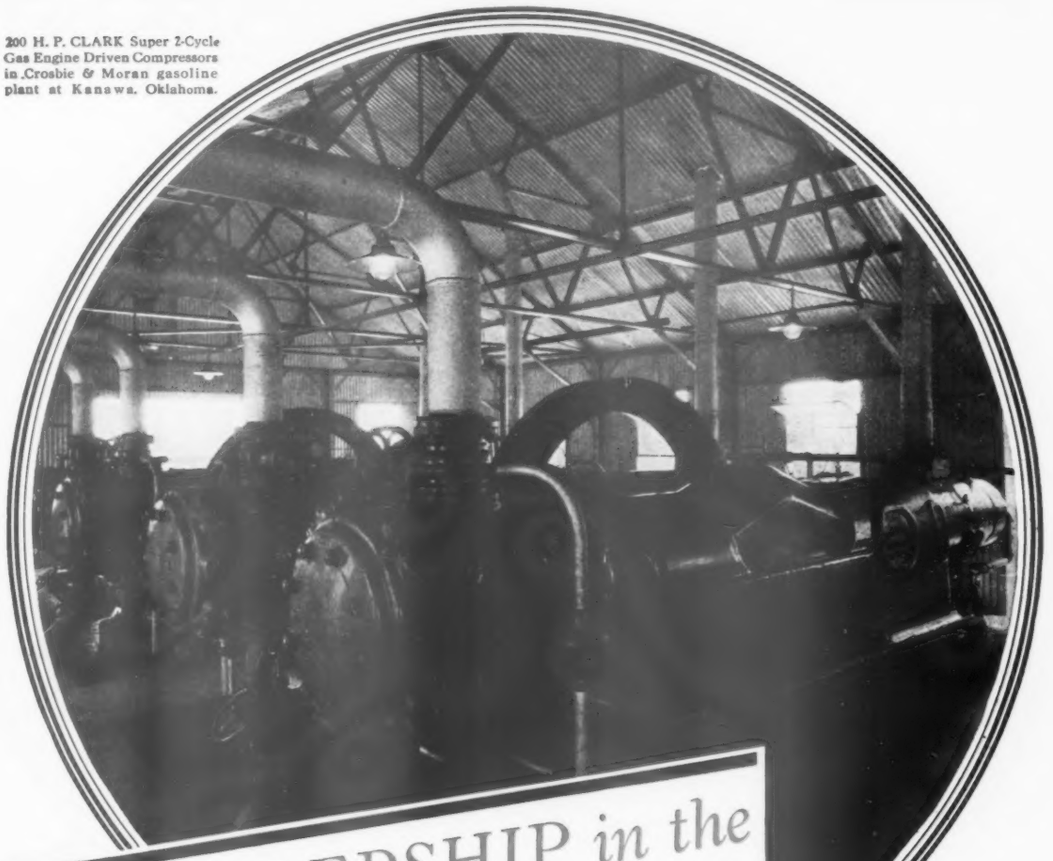
These bulletins will be sent upon request to Globe Oil Tools Company, Los Nietos, California.

Bulletin 10-A is just off press and covers H. C. Smith coring equipment.

"Oil and Gas Royalties," by Samuel H. Glassmire, is a second edition of the book and a great improvement over the original text, containing carefully selected citations to the controlling court decisions, an alphabetical table of cases and a general index not included in the first edition. Taken from a practical viewpoint the text deals with the subject in such a way that it is found to be of particular assistance to the laymen and royalty owners who have very little knowledge of the law as affecting petroleum royalties. It contains information for those interested in oil and gas law from the standpoint of practical application.

Standard text-books have covered the field from a thoroughly technical outlook while the author endeavors to confine the discussion to a consideration of the several kinds of royalties which accrue under the various forms of oil and gas mining. He also includes a discussion of the general nature of the estate created by a mineral deed or so-called royalty conveyance, and points out the incidents or attributes peculiar to and characteristic of oil and gas royalties.

Citations and decisions of the Oklahoma courts predominate since more new questions affecting oil and gas law have been decided by them than by any other jurisdiction during the past decade. Questions involving the ordinary instances of legal procedure are treated in this book in such a manner that the royalty owner will be able to comprehend their meaning to the extent that he can make practical application of his own problems to the case. Members of the legal profession regard the text as a convenient hand-book to be used in working out many of their cases.



200 H. P. CLARK Super 2-Cycle Gas Engine Driven Compressors in Crosbie & Moran gasoline plant at Kanawa, Oklahoma.

CLARK LEADERSHIP in the 2-Cycle Field includes Priority in Pioneering Improvements

Look in the New Plants for CLARK "Super 2-Cycle" Engine Driven Compressors. . . . . .

CLARK

Vertical and Horizontal Compressors - - Drilling Engines - - Pumping Engines - - Engine-Driven Generator Units. . . .

The sales leadership gained and held by CLARK 2-Cycle Engines is soundly based on leadership in designing 2-cycle machines - - which are improved whenever engineering progress makes possible.

Notable among many features contributed by CLARK to oil country engine design are: the CLARK patented Fuel Saver; the CLARK Variable Load Governor; forced feed filtered lubrication on to bearings; water cooled exhaust port bridges; centralized control; clearance pockets on all compressor cylinders; die forged connecting rods, etc., etc

CLARK BROS. CO., Olean, N. Y.

Export Office: 150 Broadway, New York City
Mid-Continent Sales Offices: Tulsa and Fort Worth
Warehouses: Tulsa, Oklahoma; McCamey and Sweetwater, Texas; Artesia, New Mexico
California: Smith, Booth, Usher Company, Los Angeles

Manufacturers and Supply Dealers Notes

Merco Centrifugal Separator Company, a subsidiary of The Merrill Company and allied with Merco Nordstrom Valve Company, has issued a bulletin descriptive of its centrifugal separator for desanding rotary drilling mud. This machine, the bulletin states, is designed for use in central mud treating plants. Because of its great capacity, 10,000 barrels per day, the machine will desand the rotary mud from several wells.

The centrifugal develops a settling force equal to 67 times the force of gravity. Under average conditions this extracts 95 per cent of the plus 150 mesh sand as well as a large part of the finer sand. The machine is compact and economical in operation, requiring a 10 horsepower motor to operate it.

The bulletin contains sieve tests on the treated mud, together with other interesting information. This new company, which is a pioneer in this field, has its offices at 343 Sansome Street, San Francisco.

A. M. Byers Company has appointed M. J. Czarniecki as manager of tubular sales, according to a recent announcement from H. W. Rinearson, vice-president. Zarniecki joined the Pittsburgh sales organization of A. M. Byers Company in 1913 and the following year was assigned to the New York office. In 1915 he was transferred to Chicago. He was moved back to the New York district three years later and in 1925 was appointed assistant sales manager of sales with offices in Pittsburgh.

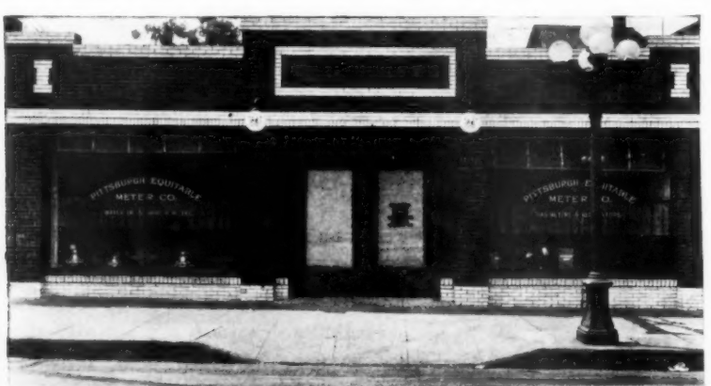
Robert J. Miller Company, distributors in Texas, Louisiana and southwestern Arkansas of Fluid Packed Pump Company and Shaffer Tool Works products and the parent company of Oil Field Specialties Company, distributor of a number of oil field products, has moved from 12 Louisiana Street, Houston, to larger quarters at 401 Velasco Street.

Chicago Pneumatic Tool Company, 6 East 44 Street, New York, has received an order for 19 265-horsepower CP gas engines for use on Phillips Pipe Line Company's line, the first constructed for the transportation of gasoline direct from refinery to market points. These engines will use commercial Butane, a fuel produced by Phillips Petroleum Company.

Marlow Belting & Rubber Company has been organized by O. F. (Joe) Horbron and Fred R. Marlow to distribute B. F. Goodrich Rubber Company's industrial line of hose, belting, packing, etc., and lay-set wire rope for the Hazard Wire Rope Company in the Fort Worth-Dallas territory. The company has established a warehouse at 415 Commerce Street, Fort Worth.

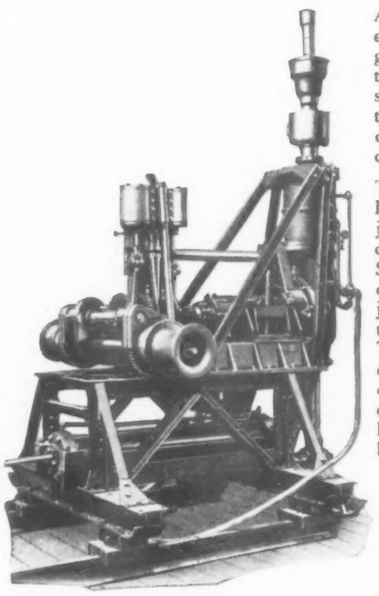
Republic Steel Corporation has received an order for 110 miles of electric welded steel pipe for shipment to natural gas interests in the Southwest. The company now has all three units of its electric welding pipe plant at Youngstown at capacity operations, the last unit being started recently. Unfilled orders on hand are sufficient to maintain a high rate of activity for the plant through the late fall, according to company officials.

Gas possibilities in the Paleozoic formation in the Ozark Highlands, the Arkansas Valley and the Ouachita Mountains are discussed in a 450-page book soon to come from the press by George C. Branner, state geologist of Little Rock, Arkansas, and Dr. Carey Cronies, assistant professor of geology at the University of Chicago. The area studied and discussed in the survey covers approximately 25,000 square miles in Northwest Arkansas.



Pittsburgh Equitable Meter Company's Los Angeles branch factory, built to give the Pacific Coast terrtory better service, is shown above. A complete line of water, gas, oil and gasoline meters and pressure regulating equipment are made at this plant. Location is 1918 *East Seventh Street*

Core Drill straightens holes —many other advantages on deep tests



A layer of sandstone on end, at about 70 degrees, deflected a cable tool bit. Cementing and shooting were tried but the bit continued to slip on the sandstone, and drill a crooked hole.

Then a Sullivan Core Drill was brought to the job. The bit needed only 1/32-in. clearance. Sensitive feed control on the Sullivan drill put just enough pressure on the bit to make it cut. The hole was straightened easily. This is only one of a number of crooked holes which have been straightened by Sullivan Drills.

But ability to drill straight holes under any conditions is only one of the advantages which are influencing production men to make deep tests with Sullivan Drills.

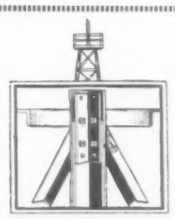
They cut hard or soft material as encountered, with no change in equipment. The cores show the slightest indication of oil, so that you cannot run by it unknowingly. The cores show seats for casing. The drills make small holes, effecting substantial savings in time, operation, and equipment.

The money saved on dry holes pays over and over the cost of redrilling when a strike is made.

You will be interested in the new Sullivan Booklet on Deep Tests and Wildcats. Just write for Booklet 85-H.

SULLIVAN MACHINERY COMPANY
713 WRIGLEY BLDG., CHICAGO
Agent for Oklahoma and Kansas
GEO. E. FAILING, Enid, Oklahoma

SULLIVAN CORE DRILLS
Protect Oil Investments



WASHINGTON DERRICKS

Joint Construction

Write for Catalogue

O'Brien Steel Construction Co., Inc.
Washington, Pa.

Western Representatives:
RIG EQUIPMENT COMPANY,
1524 South St. Louis Street,
Tulsa, Okla.

Particular attention is directed to the ingeniously provided triple strength in the patented joints of Washington Derricks.

At first glance, this construction may seem similar to other steel derrick joints but close examination will reveal a greater amount of reinforcement and a simpler provision for butting and tightening as the derrick is erected.

The Washington joint will stand out in any comparison with structural derrick joints as possessing maximum strength and as providing great rigidity to the derrick. Many users have remarked that there is less vibration in this derrick when spudding-in than with any other derrick they have used.

WASHINGTON STRUCTURAL STEEL DERRICKS

CONTRACTS TAKEN FOR
TORSION BALANCE
and
MAGNETOMETER SURVEYS
With the Collaboration of
DONALD C. BARTON
Consulting Geologist and Geophysicist

George Steiner
CONSULTING GEOPHYSICIST

Sole American Representative:
Suss Torsion Balances
Original Eotvos Visual
Eotvos Rybar Automatic

Petroleum Building,
Houston, Texas

SQUEAKS FROM THE BULL WHEEL

Washington, D. C.—This is a serious problem, worthy of the best minds of the oil industry.

Followers of the horses in the big cities have been forced to seek other fields for their undoubted ability with the broom. Now comes another charge leveled at the automobile, which has so decimated the ranks of real, patriotic American horses as to threaten that stand-by of big business, the mushroom industry.

Officials of a government department which is interested in foreign trade (we promised to name no names) are understood to be deeply concerned over a query which has recently been received from one of their field agents. Striking as it does at the very vitals of American industry and commerce, solution of this problem has so far baffled the best minds of Washington. The letter follows:

"Mr. Blank Blank, export manager of the International Blank Corporation, New York City, has requested the assistance of this office in contacting foreign sources of supply for horse-manure, to be used in the production of American-grown mushrooms.

"As this office has had no experience in handling this commodity, and as we are unable to decide which division is best fitted to handle the matter, we bring this letter to your attention with the request that you forward it to the proper division for action.

"As this commodity may be considered to be competitive with the domestic product we should appreciate the bureau's instructions with regard to handling this request.

"Our contact desires a list of first-class reliable dealers and importers of horse-manure, which we shall be glad to forward to him as soon as it is received. Samples may be submitted to him dipecting?"

Wife (at head of stairs, 2 a.m.): "Is that you, John?"

John (ominously): "Who were you exrect."

"Hey, George, I just got a letter from my brother. He's living in Chicago, and is glad."

"Glad he's in Chicago?"

"No, glad he's living!"

Mrs. Willis (sternly, to husband arriving home at 3 a.m.): "What does the clock say?"

Mr. Willis (genially): "It say 'tick-tock,' and the doggies shay 'bow-wow,' and the little pusshy-cat shay 'meow-meow.'"

Insignificant Parent: "Isn't it time he could say 'Daddy?'"

Fond Mother: "We've decided not to tell him who you are until he gets a bit stronger."

Mrs. Goldberg and Mrs. Silverstein were gossipping over the back fence.

"I heard it today dot Abie Kazinsky vos keeping a budget."

"Vot!—und his vife too?"

"Do you believe in clubs for women?"

"Yes, if kindness fails."

"Do you know that Vandewater has 11 children?"

"He's gone stork mad, hasn't he?"

Silas—What's that I hear, Hiram, about your hired man falling off the roof when he was shingling the barn last week.

Hiram—Yeh. He fell in a barrel of turpentine.

Silas—Did it hurt him much?

Hiram—Don't know. They ain't caught him yet.

The teacher was examining the class in physiology.

"Mary, you tell us," she asked, "what is the function of the stomach."

"The function of the stomach," the little girl answered, "is to hold up the petticoat."

"Waiter, this spinach is terrible!"

"Sorry, sir; you'll have to take it up with the greens committee."

Pals—What's the difference between nectar and elixir?

Grove—Why, before Jack married his wife he nectar and now elixir.

Measured by the frequency of use, the letter "e" is the most important letter of the alphabet; it would seem to be almost indispensable.

But let's see what we could do without "e." Give him a vacation, so to speak, and put humble "x" in his place and see what happens. When we come to print a sentence we find it looks like this: It sxxms pxfxctly impossiblx to do without thx sxcond vowxl, but hxrx is thx proof that it can bx xliminated and still lxavx thx sxntxncx lxgiblx.

We'll agree that this isn't so smooth as if "e" were on the job, but it is readable. In time we would become accustomed to it and it would seem quite the usual thing.

Which may or may not go to show that whilx you arx important in thx businxss, things will go ahxad prxttty much thx samx should you go on a short vacation.

APPLEMAN GUMBO BITS

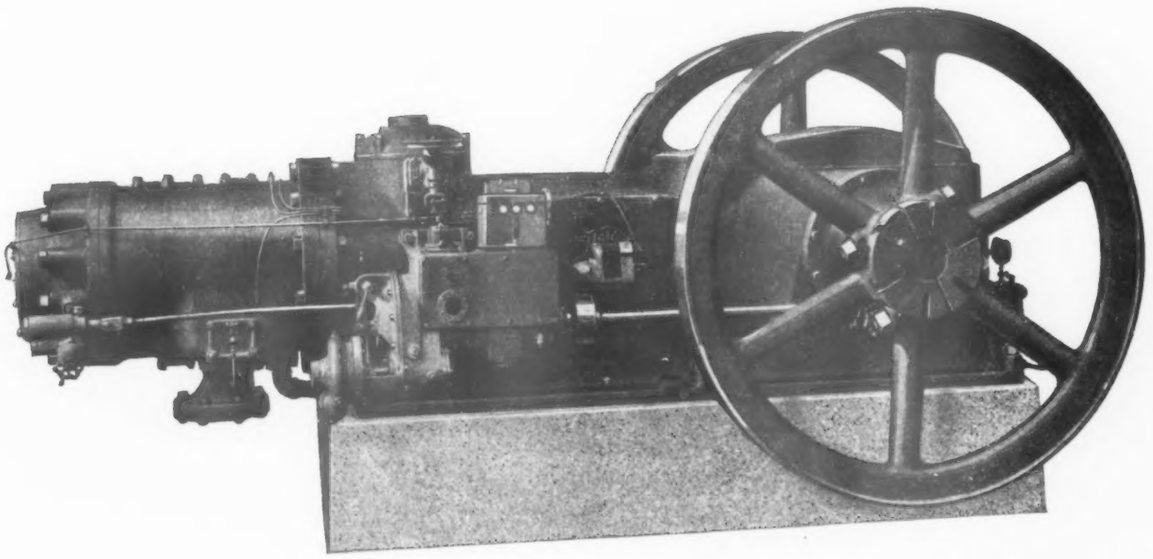
Give Speed and Economy to Drilling

The remarkable speed of this bit has made for it a reputation throughout the ranks of oil operators and drillers that singles it out as a leader *where time saved means dollars saved.*

Ask the man who uses them or write for information

B. K. APPLEMAN
BEAUMONT, TEXAS

NEW

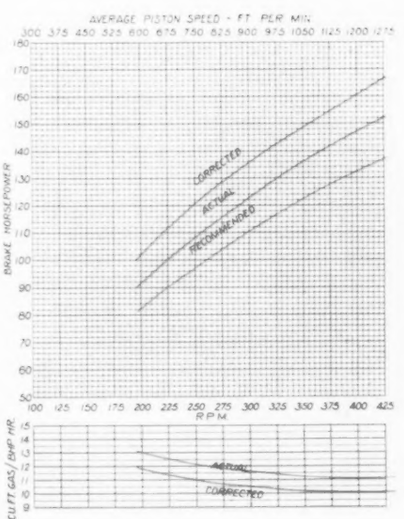


The 14½" x 18" TYPE C

Two Cycle Gas Engine

80HP at 180 RPM

135HP at 400 RPM


AVERAGE PISTON SPEED - FT. PER MIN.
300 375 450 525 600 675 750 825 900 975 1050 1125 1200 1275
BRAKE HORSEPOWER
CORRECTED
ACTUAL
RECOMMENDED
R.P.M.
100 125 150 175 200 225 250 275 300 325 350 375 400 425
CU.FT. GAS / BHP. HR.
ACTUAL
CORRECTED

This engine, rated by cylinder size, possesses the inherent features of the smaller Type C engines. In addition, the 14½" x 18" engine incorporates Timken Main Bearings, Eclipse lubricator for three-point cylinder lubrication, and a Robert Bosch Magneto. It may also be equipped with high pressure lubrication to crank and crosshead pin, and a lay-shaft-driven, Timken-equipped water pump.

JOSEPH REID GAS ENGINE CO.

OIL CITY, PENNSYLVANIA, U. S. A.

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